The Builder.

No. CCCXXVI.

SATURDAY, MAY 5, 1849.

THE summer weather is coming, with light mornings and long days, and our student readers will do well to avail themselves of it, whenever opportunities occur, to see all that is to be seen in their respective neighbourhoods, by which habits of observation may be formed, their store of knowledge increased, their taste formed, or their judgment strengthened. See all the best pictures, and the best buildings you can find: by accustoming the eye to what is good, it will soon be led to reject what is bad. When you have a leisure day, get off to some of the old churches near you, or to one of our noble cathedrals, and fill your sketch-book and your note-book with records of what you see and what you think. Make it an enjoyment; a relief from stricter study. Even without reference to the "good" that is to come from such jaunts, in the work-a-day sense of the word *good*, they give tone to the mind, fill it with pleasant memories, enlarge the store on which thought may afterwards draw, and invigorate the body.

And these are not trifles. As we have before now said, to make a good architect or a good builder is something; but to make a healthful, well-judging, virtuous, and happy man, is something more. Recreation is necessary for all; and it is most desirable that we should so tutor ourselves as to find this in pursuits which, so far from being hurtful, are advantageous as well as innocent.

When we took up the pen it was for the simple purpose of introducing to our readers a view of that extraordinary architectural production, ROSLIN CHAPEL, near Edinburgh; and we were led to make the preceding remarks by the recollection of the enjoyment which the jaunt to this very curious and interesting remnant of the fifteenth century had afforded us.

The vale of Roslin, a sequestered and beautiful spot, varied by wood and waterfall, is on the north Esk, and about 7 miles south from Edinburgh. The day was superb, our companions (one of the best of the modern Scotch song-writers, and a well-known sculptor,) abounding with information and good feeling, and the road so sequestered and romantic, that a notice, which we saw on a board in a hedge,—"Beware of thimblers and chain-droppers," seemed singularly out of place and uncalled for.

It is not our intention, however, to chronicle the journey, beyond alluding to a remarkable natural amphitheatre (forming part of the valley of the Esk), with a paper-maker's house at the bottom of it, and pointing out, as a warning to those who would design without constructive skill, a monument to James Lockart Wisheart, of Lee, which was built in 1790, and is passed on the road. This structure consists of four piers, enclosing a small square area, in the centre of which is the memorial. Four pointed arches connect the piers, and were to carry the covering, but having no abutment, and being constructed without reference to *statics*, they failed, and were a ruin before they were perfect.

Roslin Chapel (or Collegiate Church as it was), was commenced in 1446 by William St. Clair, Earl of Orkney. "Age creeping on him," says a MS. in Hay's Collections,* "made him consider how he had spent his time past, and how to spend that which was to come. Therefore, to the end he might not seem altogether unthankfull to God, for the beneficies receaved from him, it came in his minde to build a house for God's service of most curious work, the which, that it might be done with greater glory and splendor, he caused artificers to be brought from other regions and forraigne kingdomes, and caused dayly to be abundance of all kind of workmen present as masons, carpenters, smiths, barrowmen, and quarriers, with others. The foundations of this rare worke he caused to be laid in the year of our Lord 1446; and to the end the worke might be more rare, first he caused the draughts (or designs) to be drawn upon Eastland boards, and made the carpenters to carve them according to the draughts thereon, and then gave them for patterns to the masons, that they might thereby cut the like in stone. Because he thought the masons had not a convenient place to lodge in, near the place where he builded this curious colledge (for the town then stood half a mile from the place where it now stands, to wit, at Bilsdone Burne), therefore he made them build the town of Rosline, that is now extant, and gave every one of them a house and lands answerable thereunto."

The founder died in 1479, and left the building unfinished: the completion of it is attributed to the end of that century.

This chapel is an extraordinary combination of the massive and the minute, some of the parts being large and coarse, while the decoration over the whole is most elaborate and continuous. But for documentary evidence it would be ascribed to the following century, when Gothic ran mad; it is like nothing else,—cannot be classed,—and ought not to be imitated. Externally, some of the pinnacles have a Chinese aspect, and other parts are Indian; there are flowers carved on the face of the buttresses, and a semi-circular arched porch over the south door.

The character of the inside is conveyed by our engraving, which shews the east end of the building, with the aisles beyond.† All the parts, roof, jambs, strings, arch mouldings, are sculptured, and much of the carving is well executed and now in a good state, considerable works having been done there eight or nine years ago, at which time the east window (not seen in our view), was put in. The effect would have been better if, instead of this window being, as it is, one of the existing windows enlarged, and having consequently only one mullion, the opening had been more subdivided by tracery.

The vaulting of the aisles is received on straight lintels, which run from the main columns to the aisle wall. These lintels are all sculptured; one of them displays the Vices, with the Evil One looking on out of the jaws of hell. In the arches at the east end, where there is the greatest luxuriance of carving, the Dance of Death is represented.

At this end a striking peculiarity occurs, which has been already noticed in our pages.‡ The vaulting here terminates next the wall on large corbels of singular design, which project to such an extent as to have led to the supposition that the east wall was pulled down after the groining was finished, and set further eastward, to give 3 feet more room, and that the corbels were then put in to prevent the necessity of pulling down the vaulting. We are not disposed, however, to coincide in this theory, but regard the arrangement in question simply as one of the many ingenious vagaries which distinguish this remarkable, and, in its general effect, beautiful building.

The "Prentice's Pillar," as it is called, with its sculptured decoration around it, is seen in our view,* also the entrance (to the right) to the crypt-like chamber at the east end, where, according to tradition, made current by Sir Walter Scott,

> "Twenty of Roslin's barons bold
> Lie buried, ——"

in their mail:—

> "That chapel proud,
> Where Roslin's chiefs uncoffined lie,
> Each baron, for a sable shroud,
> Sheathed in his iron panoply."

Mr. Burn, the architect, disproved the story in a degree by excavating both in this chamber and in the chapel. But those who are unwilling to give up the story suggest, that the bodies were placed on the ground, and not under it; and were carried off when the chapel was desecrated.

Nearly every stone in this chamber bears a "mason's mark," and in the chapel above, also, the marks are very numerous.†

Roslin Castle, with its strong walls, curious outer buttresses, and singular series of vaults, increased the pleasure of the visit: we returned by way of Lasswade; and it was light enough when we got back, to see the glorious picture which Edinburgh presents viewed from a short distance.‡

THE LATE MR. AUSTIN,

THE RESIDENT ARCHITECT OF CANTERBURY CATHEDRAL.

FOR many years up to about 1819, the cathedral of Canterbury had been allowed to run to decay, the only moneys laid out on the fabric being those barely sufficient to keep the roofs dry and the main walls from falling. Some of the most beautiful portions of the cathedral, as they became decayed, requiring more skill or outlay to repair them than was possessed by the director of the workmen, or was approved by the treasurer, were gradually swept away: amongst the latest destructions we may mention the beautiful turret, which surmounted the staircase of the north-west transept.

It was at this time that Mr. Austin, being a resident in Canterbury, suggested the absolute necessity of some repairs and works, in order to save the main fabric from falling into such a state as would endanger its existence; and by the praiseworthy exertions of the Bishop of Carlisle, then Archdeacon of Canterbury, the building was afterwards placed under his care, with directions for the suggested works to be carried out.

It would be impossible in the space of a short notice to recapitulate the various works found necessary and undertaken by Mr. Austin, or the many ingenious methods adopted to overcome the difficulties which surrounded

* Quoted by Mr. Britton, in a paper read at the Institute of Architects. See Vol. IV., p. 27.

† See p. 210 in present number.

‡ See p. 51 and p. 64, Vol. IV.

* The story (which probably every one knows), is, that the master mason, being unable to execute this pillar, went to Rome to see one of a similar description there. During his absence, his apprentice proceeded with the execution of it, and the master on his return found the column as we now see it. The story runs that envy led the master to kill his apprentice on the spot with his mallet. This story is told at other places besides Roslin, and is probably equally veracious at all.

† In connection with the subject of "masons' marks," Mr. Handyside Ritchie showed us, when in Scotland, a copy of an old document, dated 1598, purporting to be the charter of St. Mary's Chapel Lodge, Edinburgh, wherein the signature of every member is followed by his masonic *mark*.

‡ In "Britton's Architectural Antiquities," vol. iii., will be found a ground-plan of Roslin Chapel, with views and details.

him, with a comparatively small annual sum to lay out, and a building of such extent and magnitude, requiring extensive repairs in every part,—but amongst them we may mention, that the south-eastern transept, through long neglect, and worse measures adopted for its relief (as, for example, a number of massive unsightly wooden pillars in the interior of the cathedral), was found to be in a very alarming condition,—so much so that it was considered necessary that it should be pulled down, in order to save the surrounding portions of the cathedral, but no workmen had been found who would venture on the work of demolition. By an ingenious mode, Mr. Austin removed the superincumbent weight from the walls, forced them into an upright position, and firmly fixing them there, reset the large oriel and other windows, which had assumed all kinds of shapes; and, taking off the massive groining of the roof, re-turning the arches, replacing such portions of the ribs as had fallen, and removing the wooden supports in the interior, restored the transept to its former beauty. After some years, the Norman gable, which had been taken off years before to relieve the crumbling walls, was rebuilt, and the walls are now firm and strong.

The whitewash, accumulated for centuries on the interior of the building, was removed, and the whole face of the walls and pillars restored, including the innumerable small purbeck pillars, which were refaced by a composition made by the architect; and the bosses and ornaments of the roofs and tower were gilded and painted, according to their former state.

During these works, a great number of half-destroyed wall paintings were discovered, drawings from which were made, and are now in the possession of his family. At this time the stained glass of the cathedral, which stands unrivalled for its beauty, was much in need of repair, having suffered greatly from ignorant workmen; but the art of staining glass being considered at low ebb, it was thought irreparable. Mr. Austin, however, undertook himself to restore some of the worst lights, and the vacancies of one or two other lights of figures he filled with new glass,—though without the slightest previous knowledge of the art; and it is told to us (we do not remember to have noticed the fact ourselves) that the imitation is so curiously correct that many artists, when asked to point out the new glass, have failed to fix on the right lights.

The most difficult work of Mr. Austin was perhaps the north-western tower. The ancient Norman tower which originally occupied this site, and against which the present nave was built, had long been found to be in a dangerous condition; and in order to relieve the walls, the spire which once surmounted this tower was removed about a century since. This tower had at last become so ruinous that portions fell during every storm, and it gave unmistakeable signs of falling towards the north, in which direction the wall of the nave, deprived of its support on that side, began to heel over, and the groining in consequence was much crippled. At this juncture Mr. Austin, by a combination of mechanical power, after separating the nave walls from the falling tower, raised the crippled groining, and strained the walls into their upright condition, fixing them there until the new tower might be built and be sufficiently set to withstand the lateral pressure. The old Norman tower was then taken down, and the present tower erected,* for which the foundation required care, the site having been once a bog or marsh, which was clearly proved by the remains of plants, &c., there found; and lower down, 16 feet from the surface, were discovered the entire skeletons of a man and an ox, in such positions as to render it almost certain they had been smothered by sinking in the soft soil.

In the interior of the cathedral many restorations were executed by Mr. Austin. The old painted organ, the case of which entirely stopped up the fine arch between the choir and the central tower, was removed, and the various movements of the organ and its multitudinous pipes were arranged in the triforium—thus opening the view from the [illegible] easternmost end to the extreme east.

The incongruous oaken screen and altar-piece which surrounded the choir, and reduced it to half of its ancient proportions, was removed, and the beautiful screen of Henry d'Estria brought to light and restored, and the altar carried back to its ancient position. The present altar screen was then designed and erected, forming a veil, through the fretted openings of which the most beautiful and interesting portions of the cathedral are seen. In clearing away the rubbish for the foundation of this screen, and directly beneath the spot fixed upon by Mr. Austin for the altar table, were discovered the remains of the ancient high altar, surrounded by the jasper pavement, the destruction of which, in the fire of 1174, is described by Gervase, the contemporary of Becket. This would serve to shew the correctness of Mr. Austin's views as to the restoration.

The new throne, illustrated by us some time since, was the last addition to this cathedral by Mr. Austin. The design is in character with that of the altar screen, and also with a design for the erection of stone stalls, which were proposed to be substituted for the present oaken ones (a design which was preferred to those of Mr. Blore and Mr. Rickman, who also sent in drawings), but which were afterwards abandoned by the dean and chapter for want of funds. The throne was designed, and for the greater part erected, in the short space of about six weeks, in order that it might be ready for the triennial visitation of the archbishop. The ornamental parts were prepared by workmen who had been employed in the cathedrals of Brussels and Cologne, as Englishmen could not be obtained at the moment. It was erected at a cost of about 1,200*l.*, which was defrayed by the late archbishop, whose armorial bearings ornament the interior of the throne. It has been proposed to paint and gild some portions of the throne and altar screen, but we are not anxious that this should be done.

In justice to Mr. Austin it should be stated that the stone pulpit which has been lately erected opposite the throne was *not* erected by him or from his design, though some portions of it were afterwards altered and adopted by him.

Mr. Austin, to whom it may be justly said all admirers of ecclesiastical architecture are indebted, died in October, 1848, having held office under the dean and chapter for thirty years; and it was a graceful act of the dean and chapter, by which even his death was rendered a continuation of the services of his life in beautifying the cathedral, that they have directed the large window in the north-western tower to be filled with stained glass to his memory. Mr. Austin died at the age of 62, and was a native of Woodstock, being born in "Chaucer's house." It should be remembered, when estimating the merit of his work, that he was one of the earliest of those who gave attention to the restoration of our cathedrals, and began the good work which has of late years been so largely carried out.

* We do not enter into the question which arose as to the propriety or otherwise of retaining the early design.

"PERFECTION IN BUILDING—A WORK OF PROGRESS."

IT is an undeniable fact, that thousands of houses are rapidly built, tenanted, and sold in this London of ours, devoid of anything like comfort or novelty of arrangement, though in a scientific age like unto the present, when numberless improvements are being patented, or at least registered (and none are brought to more perfection or in greater number than those connected with building), yet is the tradesman or clerk content to go on year after year, in the occupation of the ill-arranged and scantily-constructed dwellings with which the metropolis swarms. Scarce a district where, but a short space since, notice boards said, "*Horses taken in to grass*," but now, alas! the fashion's changed, and "*Apartments for single gentlemen*," with houses to let, or perhaps to sell, with the temptation of paying a large per centage, take their place. That argument of the purchase or sale of house property to pay a "*per centage*," annoys me! Examine some of the lists put forth by auctioneers, and property will be found to pay from 4 to 20 per cent.; surely the one must be too cheap, while the other must be too dear. Take an intermediate, say some ready-built tenements to be sold to pay 10 per cent.; now, without reference to whether they are well or ill built, I would wish the question to be canvassed—whether the materials of which the house is built, together with the labour, and with these a fair tradesman's profit, should not rather be the basis for calculation of value, adding value of land, than by extorting an exorbitant rent in order to make the purchase-money larger? How the houses ever find tenants at all is astonishing, were it not a known fact, that as soon as they are finished, the builder will let them to *any one* who will agree to pay a high rent; he, intending to dispose of the property, cares not to see quarter-day, to ascertain the stability of the occupants, but is then in a position to sell "the desirable house, let to a most respectable tenant, at a low rent, and the investment will pay the purchaser 10 per cent."

How forcible are the truths of old Gerbier, who, as far back as 1660, said, "Let all owners of houses be prepared to repent, whether they build or not; for it is like the fate of the many who marry and who marry NOT: let both, the one and the other, lay as it were in a scale their several vexations, cares, labours, and pleasures, they will find this to be true, viz.,—if they build, they must be at greater present disbursement; while if *they* build NOT, they are subject to the inconveniences of houses built according to the fancies of *others*; and when they cast up the sums of money spent in rent, besides many chargeable alterations, they will find that they might have built a better and more fit habitation for them and their posterity." Well, nearly two hundred years ago do we find advocates were to be found trying to teach the public that the art of building was intimately connected with the convenience and comfort of life, and, as such, was most deserving of the best attention of all.

Building is essentially a work of progress, not positive inaction, letting what was before be now but the reducing of a system by which stability and elegance are blended, and also a judicious choice and application of all materials. Many parts of the globe present strong pictures of from what a mean original buildings arose; for instance,—the necessity of providing protection from the changes of the weather led men, in the first instance, to select natural cavities or grottoes; but when a colony of men joined together, these natural dwellings became insufficient: then, *stern necessity* compelled them to unite in erecting a sort of hut,—and of this primitive type the Indians of the present day have striking examples, being constructed of boughs and trees tied together by bands uniting at the top, not unlike in outline our tents. From this we can conceive the origin of building; and though the first efforts may (to us moderns) appear rude, still they were such as answered the wants of the inhabitants,—more than can be said of many a noble erection built in the age of refinement and civilisation. We could go on suggesting and imagining that the different productions of old dame Nature began to be regarded and eagerly sought after, and that stone began to take the place of boughs and trees in walls. Then the erections first began to have an appearance of regularity and strength; then this was further assisted by the ambition of each endeavouring to excel his neighbour in his dwelling, and this rivalry must have materially aided the introduction of ornament. Then commenced and progressed civilisation, and, perhaps, even proportion was not lost sight of: certain it is that many of the former rude appliances came to be suggestive of ornament. Thus, the bands, encircling and keeping the trees together, when copied into stone, became mouldings. Again, the stone under the tree, placed to prevent it driving into the ground, may have given the first idea of the base of the column. The early knowledge of our forefathers must be estimated by the fact, that bricks were known, as also a composition like our mortar, soon after the deluge.

Look at the ponderous works raised by the mighty Egyptians four thousand years ago! Do not their remains, even in a ruinous state, still show a boldness of outline and a truly impressive appearance? But grand as the works in Egypt were, they were improved upon in succeeding ages by the Greeks, who, though

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not producing works of the same astonishing magnitude, still formed successful rivals, by adding perfection of proportion and simplicity of form; and the Romans subsequently, though adopting the architecture of the Greeks, still further advanced the arts by adding magnificence. Perhaps they did not make so distinct a step to originality of conception as the Greeks did, when borrowing from the parent source, Egypt. On the decline and fall of Roman power, purity and perfection in the art became entirely disregarded, giving place to a most curious mixture of arches, columns, and ornament, without any certain rule to determine the proportion. Then flourished, in more or less perfection, all the several styles and stages of Gothic architecture, which was likewise without precedent; sometimes expressing durability and strength by circular arches and large columns—at others, with pointed arches with groups of columns tied together, models of lightness and marvels of construction. And all these, singularly incongruous one with another, have been adopted by us moderns: in fact, this London has copies, or at least representatives, of every known building peculiar to every age and country, though some are such vile productions, that one is tempted to wish that

"The Goth, the Christian, time, war, flood, or fire"

would relieve us of their presence. In speaking of the architecture of any country we usually hear something about the "Augustan age," or that period when the arts were cultivated in the most pure style; now, whether England has ever seen that age, or if it is in the good time coming, it would be difficult to say, for it is not a little amusing to find each wishing to claim his own as the period. Elmes was for fixing the reign of George IV., when Nash and others produced works that have since been pulled down, or new fronted, perhaps, with no greater reason than that the fashion has changed. Thirty years ago it would have been positive madness to have proposed a Gothic church, and now it would be equal madness to propose one in the classic style. Every dog has his day, so truly has every idea. Professor Cockerell made mention in one of his lectures that he himself had known four distinct changes. We have shown, then, that building should be a work of progress, not inaction, but this has hitherto more particularly referred to public buildings alone, not to our private dwellings. Hence is it that old houses find more respectable tenants than the modern fashionable residences. The fact is, in the erection and arrangement of these houses, no new idea is thought of, because of the expense, but they are modelled after the "what was before," with this exception, that every part is to be cut down and reduced to a marketable price, and to pay the good per centage.

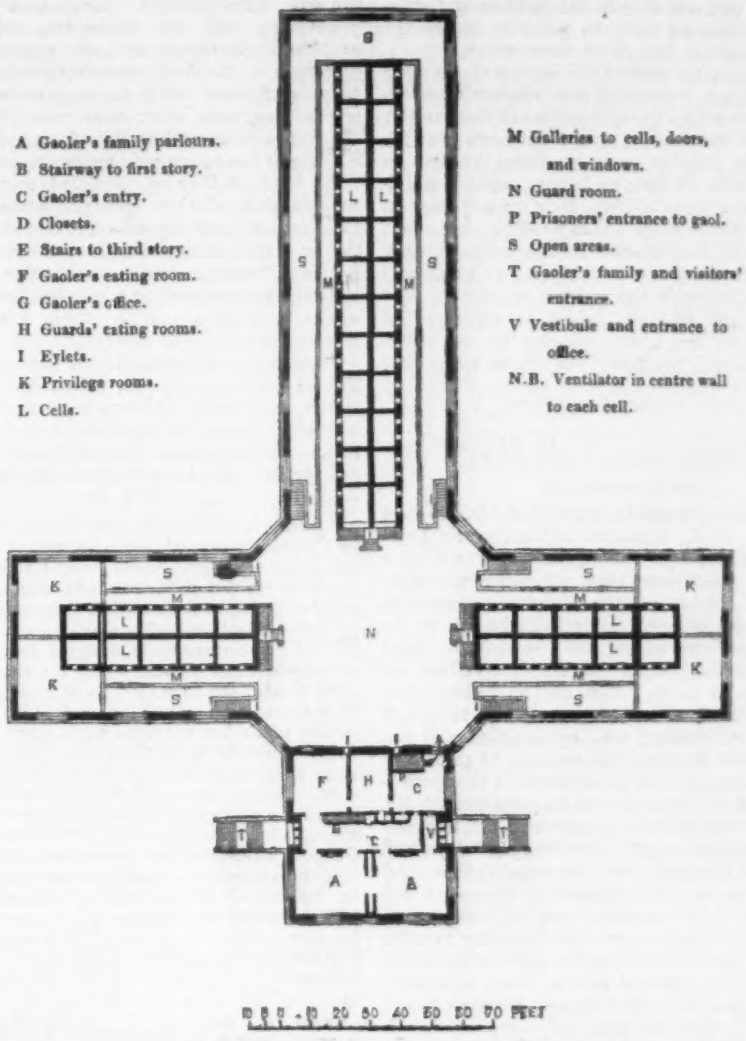
It will be noticed that our remarks apply to the numerous small houses erected by builders on the speculation of finding a purchaser; in fact the ready built houses are the stock in trade of these builders, built expressly for sale, with dashing fronts, ornamented enough to produce the "how nice!" from the public,—such as those who occupy and who are the patrons of houses with porticoes of two Doric columns, perched on a flight of steps high enough to serve for an ancient temple, and finally, in the entablature, Gothic battlements for a cornice, guarded by sphinxes or curious lions, anything but thorough-bred. Depend upon it, however small the edifice may be, it will be best to consult some person to make a plan, and then abide by it, rather than purchase the work of men which is the result of but "little knowledge," which is admitted to be "a dangerous thing." Does not the following speak for itself? "T—— S——, bricklayer and plasterer; jobbing in all its branches; buildings designed in all the five orders of architecture." This is to be seen suspended in very large letters in front of a house in Tottenham, and this perhaps is notified to the public on the strength of having spent a month in some engineering college, where everything is taught at first sight. Depend upon it, so long as the public remain indifferent to becoming judges of building, there exists but little prospect that better houses will be brought into the market. The utility is surely self-evident, in fact it is a point of *self interest*. Let the study be taken up by educated people, and instead of being, as now, simply a professional one, it would acquire a popularity that would have a most beneficial and salutary effect on the art itself;—then would this ennobling art find a refuge from those who play such fantastic tricks with bricks and mortar, as make us "wipe the tear of pity from our eyes."

FRANCIS CROSS.

GROUND PLAN OF NEW GAOL, BOSTON, U. S.

A Gaoler's family parlours.
B Stairway to first story.
C Gaoler's entry.
D Closets.
E Stairs to third story.
F Gaoler's eating room.
G Gaoler's office.
H Guards' eating rooms.
I Eylets.
K Privilege rooms.
L Cells.

M Galleries to cells, doors, and windows.
N Guard room.
P Prisoners' entrance to gaol.
S Open areas.
T Gaoler's family and visitors' entrance.
V Vestibule and entrance to office.
N.B. Ventilator in centre wall to each cell.



NEW GAOL IN THE CITY OF BOSTON, U.S. FOR SUFFOLK COUNTY.

A NEW gaol is about to be built in the city of Boston, from the designs of Mr. G. J. F. Bryant, architect. As it differs greatly from any arrangement yet adopted in England, we annex a plan of the ground-story, and a description by the architect.

The gaol will be cruciform in plan, and will consist of a centre octagonal building, having four wings radiating from the north, south, east, and west sides thereof; the north, south, and east wings will contain the cells for the use of the prisoners, and the west wing will be appropriated for the jailor's family, officers' quarters, and the necessary incidental offices and apartments required for the building, together with a chapel and hospital.

The three wings containing the cells are to be constructed upon the "Auburn plan," so called (being a prison within a prison), the north and south wings will each measure 80 feet 6 inches in length and 55 feet in width, and 56 feet in height above the surface of the ground; the block of cells within each of the north and south wings will measure 63 feet 6 inches in length, 21 feet in width, and 54 feet in height, and will be divided into five stories; each story will contain ten cells, each of which will measure 8 feet by 11 feet, and 10 feet high, thus giving to each of these two wings fifty cells.

The east wing will measure 164 feet 6 inches in length, 55 feet in width, and 56 feet in height above the surface of the ground. The block of cells within this wing will be 147 feet 6 inches long, 21 feet wide, and 54 feet high; it will also be divided into five stories in height, each story will contain twenty-four cells of uniform size, with the cells of the northern and southern wings, before described, thus giving to this wing 120 cells.

The spaces around the outside of each block of cells in each of the before described wings (between the cell walls and the exterior walls of the wings) are to be appropriated as "areas," which are to be open from the floor of the lower story of cells in each wing, up to the ceiling of the upper story of cells in the wings; galleries of iron will extend the entire length of each of these spaces, outside of the cells, on a level with each of the floors; these galleries will form a communication with other galleries which are to encircle the interior of the "centre octagonal building" aforesaid, on the same uniform level with the first-named galleries. Each cell will contain a window and a door communicating immediately with the galleries of the "areas." The west wing will measure 55 feet in width, and 54 feet in length, and be of uniform height with the three first named wings: it will be four stories in height, the lower one of which will contain the family kitchen and scullery of the gaoler; the second story will have the gaoler's office, officers' rooms, and gaoler's family parlours; the third story will be devoted entirely to the sleeping rooms of the gaoler's family and officers; and the fourth story will be appropriated for the hospital and chapel of the prison.

The "centre octagonal building" will measure 70 feet square, and 85 feet in height above the surface of the ground. It will be but two stories in height, the lower one of which will contain the great kitchen, scullery, bakery, and laundry, and will be on a uniform level with the lower story of cells in each of the three wings which contain the same. The upper

story will be finished as one "great central guard and inspection room," reaching from the ceiling of the first story up to the roof of the building; this room will measure 70 feet square, and will contain the galleries and staircases connected with the galleries around the outside of the cells in the three wings.

All the areas around the outside of the cells of the north, south, and east wings will receive light from the great windows in the exterior walls of the wings; these windows will be thirty in number, each measuring 10 feet in width, and 33 feet in height, beneath which other windows, 10 feet wide and 9 feet in height, will be placed, thus yielding an amount of light to the interior of the cells probably four times as great as that in any prison yet constructed upon the Auburn system.

The cost of this prison is estimated at 150,000 dollars, but, according to our informant, it will probably cost *three* times that amount.

THE CHARGES OF THE ELECTRO-TELEGRAPHIC COMPANY.

WE have received a letter from Mr. J. Lewis Ricardo, M.P., chairman of the Electric Telegraph Company, calling our attention to a paragraph of our own regarding the telegraphed report of the Cobden banquet at Wakefield, wherein, after doing justice to the expedition with which that first and only great effort in this country was accomplished, we expressed a hope, "that the only drag upon the lightning speed of the electric telegraph that now remains, viz., extravagant and impracticable charges, will ere long be cast off as an incubus that can no more profit the conveyancers of intelligence than its publishers." Mr. Ricardo enters into a lengthened and interesting explanation of the heavy outlay and expense attendant on the construction and maintenance of the extensive apparatus and property of his company; an explanation we would the more regret our inability to offer in full, were it not that the same explanation has already appeared in the *Times*, and more or less fully in other papers, through which our paragraph had previously circulated. Of course Mr. Ricardo's object is to shew that, every thing considered, the company's charges are moderate, and that therefore our accusation is unjust and unmerited. "As I am quite satisfied," he says, however, "that you had none but public motives in the charge made against us, I am anxious to set ourselves right with you, and through you with the public, on a charge which is calculated to do serious damage to our undertaking, the importance of which you have fully and handsomely acknowledged."

We should be exceedingly sorry indeed to do even the slightest damage to so important and almost national an undertaking. Our sincere intention, on the contrary, was to do good service to the company no less than to the public, and it still remains to be seen, whether a very considerable reduction of the present charges for the conveyance of intelligence,—even of mere messages, though we principally alluded to such lengthened reports as that to which we had just referred,—would not very considerably increase the company's profits, even while additionally benefiting the public. Mr. Ricardo himself, while limiting the very design or purpose of the telegraphic system at large to *important and urgent messages*—thus plainly showing that the eyes of the company are not even yet opened to those wider and more extensive purposes recently displayed in their own striking and meritorious achievement for the *Times*,—admits that "many of our wires are in far from complete and continuous employment." Why should this be still the case, if the charges, even for messages, be not to a greater or lesser extent impracticable? Nay, why should the company calculate their charges by any exclusive reference to *urgent* or even *important* messages atall? It is certain, that so long as the charges are so estimated, messages of a less urgent or a less important nature *will* be permanently excluded. Does not the very fact that many of their wires, even though only capable of conveying a certain more or less limited number of messages in a given time, are in far from complete and continuous employment, clearly prove that the company pitch their charges at too high a figure for those less urgent or less important messages, which otherwise *would* keep their wires in complete and continuous employment? Ay, and in all probability, call for duplicates, triplicates, or manifold repetitions of separate sets of many of them for separate and simultaneous purposes? It is not such mere "statements" as ours alone that may "have the effect of preventing the public from making the full use of the telegraphic accommodation provided for them," or be calculated to "impede an extension of that accommodation;" and the company may depend on it that the initiative in "diminishing the cost at which it is provided" rests, not with the public who do not fully patronise their wires, but with themselves, who do not afford them a sufficient temptation to do so.

In allusion to the magnitude and expense of the establishment,* the numerous staff of clerks, mechanics, batterymen, and higher officials, kept up, the tear and wear, improvements, substitutions, &c., continually going on, Mr. Ricardo says, if these things be considered—

"I submit that a maximum charge for a message amounting to 1d. per mile cannot fairly be considered as an exorbitant demand for the accommodation afforded to the public in keeping open so many receiving stations, and the maintenance of the expensive establishment to which I have adverted. The telegraphic system is designed for important and urgent messages, and could I violate the secrecy which I feel bound strictly to observe, I could show that not one despatch in a hundred has been forwarded which has not been worth many times the amount paid for it by the sender. A commercial house at Liverpool will scarcely grudge 8s. 6d. for a communication by which a necessary payment may be made, an important order given, or a profitable operation facilitated in London; and the message from Glasgow, which traverses a distance of 520 miles in an instant, to summon a son from the metropolis to the bed-side of a dying parent is scarcely to be judged overpaid at a charge of 14s.—considerably less than a halfpenny per mile. An express message, sent by porters or by a cab from the city to the west end of the town, say from this office to the House of Commons, a distance of four miles, will cost 2s. 6d.; and if the same message can be sent from Manchester to Liverpool, a distance of thirty miles, for the same sum, and in a shorter time, it cannot surely be deemed an extravagant demand."

Now, over and above what we have already said as to the design or purpose to which the Electric Telegraph Company seem to desire to limit their ramifications throughout the country, it appears to us that they are not very much entitled to compare or contrast their charges in this way. What would they say to such an argument as this, by way of contrast, against themselves?—Your charges are exorbitant, for while you are exacting 1d. per mile for the mere conveyance of twenty words through a wire not a quarter of an inch in diameter, railway companies are conveying passengers themselves, even though they be 20 stone weight, at that very charge, and even at considerably less, in heavy and expensive carriages, and by steam-power, along a vastly more expensive line of massive rails, and levelled, tunnelled, bridged, embanked, and stationed and officialed railways: and this they do, however urgent and important the object may be which the passenger has in view, or however much he may benefit by his journey! But let us see what they do say at Liverpool to all this special pleading of our correspondent.

"Several Liverpool merchants on 'Change," says the *European Times*, "called our attention to a letter in the *Times* of yesterday from Mr. J. L. Ricardo, chairman of the Electric Telegraph Company, upon which we would at present merely remark that it is not surprising that the electric telegraph is but little used in England, when the company demanded, on the 26th inst., 13s.! for transmitting from London to Liverpool the following short message:—

Lil. Hi. Db. Sixty-eight half Nine-fourth.
E. Ayax. O. G. S. T. Three-ten.

Only forty-eight letters. And at this exorbitant rate they say they do not guarantee the correct transmission of a message unless paid for as a "repeated message;" so that under that infliction the public would have been mulcted of 21s. for sending forty-eight letters. See how the thing is done in America. We lately sent a message of greater length from New York to New Orleans and back, about 4,000 miles, for 8s., and it was accomplished in 70 minutes. Here is another fact. We had, on the same day, a message, containing more than forty-eight letters, sent from Philadelphia to New York. On its delivery we paid one shilling for its transmission, and (one penny) for delivery. In these two American messages there was not a single mistake!* As this is a subject of great public interest, we will prepare and publish a full statement of our business with this company for the 117 days of this year."

But, again, we must remark, that our allusion to impracticable prices bore direct reference to the charges made to newspaper proprietors for the conveyance of general intelligence in such reports as that which appeared, we may say, for the first and only time in this country. And it is a remarkable circumstance that in so elaborate a reply to so incidental an allusion, not one word relates to this our real complaint against the company. Charges of one halfpenny, or even one penny per mile, for a message of twenty words, *might*, after all, be unobjectionable, though even these, it appears, ought to have come within the sweep of our denunciation of extravagant and impracticable prices; but, even otherwise, such charges, for every twenty words, in a long report of a meeting, must be preposterous, even were they moderate for mere brief messages of urgency and importance. It cannot be denied that the first announcement of their charges by the Telegraph Company completely damped the hopeful prospect of mutual benefits in constant intercourse between these conveyancers of intelligence and its publishers, and pre-determined the latter against the former altogether. Thus it seems to be that the promotion of public and general intelligence of more or less importance, by newspaper report, is not even comprehended in the category of the purposes or design of the telegraphic system at all,—whereas, until it be so, and until temptations in the shape of considerable reductions in charge be offered to the public and the press itself, to transmit intelligence of second, third, or even fourth-rate, far less of first-rate, importance or urgency, we do fear that there will be no such profitable return as we would desire to see reaped in so spirited and large an undertaking as was the establishment of the Electro-telegraphic Company.

THE NEW DOCK AND WHARVES CONSTRUCTING AT GREAT GRIMSBY.

THE plan of these works includes an entrance basin, area 19 acres, accessible for the largest vessels at all times of the tide, with piers suitable for all vessels not requiring to enter the docks. The great lock is 300 feet long, and 65 feet wide. The small lock 200 feet long, and 45 feet wide. The dock, area 29 acres, is accessible for all vessels for twenty hours out of the twenty-four. The east wharf is 2,000 feet long, and 670 feet wide, to be appropriated to warehouses and a goods station, with railways laid to every part, area 42 acres.

Great Grimsby has every prospect of becoming a very important harbour and port, and when

* We may here give a summary of this part of Mr. Ricardo's letter. The wires of the company stretch from Glasgow on the north to Dorchester on the south, from the east coast at Yarmouth to the west at Liverpool. They have brought upwards of 150 towns into instant communication with each other. Besides a central office in Lothbury, and five branch receiving-houses in various parts of the metropolis, from the main station at Lothbury their wires (carried at great cost in iron pipes under the streets) diverge to every town of importance in the country. In the metropolis alone they have upwards of sixty persons in their employment, and at each of their country stations they have, independently of messengers, not less than two, and in many cases as many as ten, signal clerks, all of them skilled in manipulating and interpreting the telegraph. The wires which they have set up for the use of the public alone are upwards of 9,800 miles in length, and extend over a distance of 2,060 miles, and, exclusive of those running under ground and through tunnels or rivers, are stretched on no less than 61,800 posts, varying from 16 feet to 30 feet in height, and of an average square of eight inches, with an expensive apparatus of insulators and winders attached to each.

* Here we must observe that the Americans might have urged the very argument adduced by Mr. Ricardo in favour of his higher charges. Yet no one can doubt brother Jonathan's perfect competency to mind the main chance. Some further illustrations of the contrast between American and English charges are given in the *Times*.—Messages of ten words or under are as follows:—from New York to Boston, 50c.; New York to Philadelphia, 25c.; Baltimore to Washington, 10c.; Washington to New Orleans, 150c.; Baltimore to Cincinnati, 90c.; Baltimore to St. Louis, 135c.; Baltimore to Philadelphia, 25c.; and from Philadelphia to Washington, 30c. From New York to Boston the distance is 200 miles, for which the charge is 2s. (English). For every additional word 1d. is charged, *and with these remarkably low prices the company makes a good profit, because the public continually use this wonderful medium of communication.*" And why *do* they so use it, but *because* the prices *are* so low?

its spacious tidal basins and large floating docks are completed, there will be every advantage which a port can possess afforded to the shipping which carries on the eastern commerce of the country. Even at present the harbour of Grimsby affords shelter to a large traffic; the natural advantages have already rendered it an extensive port, and the floating docks, although not on a large scale, are oftentimes full of ships, chiefly from foreign countries.

Mr. Rendel is the engineer-in-chief, and Mr. Adam Smith, the resident engineer.

At the lunch which followed the ceremony of laying the first stone on the 18th, the Earl of Yarborough, who presided, said in the course of his speech, Perhaps strangers may not be aware of the enormous quantity of timber necessary to construct these docks. That timber has been imported from the Baltic. We have succeeded, though it was prognosticated that we could not, in shutting out the water as you have seen to day, and we may consider it fortunate, as I believe we are at this moment 19 feet below the level of the water. The first pile of this timber was driven in 1846, and I recollect that it was stated in a neighbouring port that there was an end of the Grimsby docks. It was said that when the first pile got tapped on the head by the engine it went through the quicksand, and was no where to be found. But it was a mistake, for since that time the coffer-dam has been extended to the length of 1,600 feet, and to construct it there have been obtained 70,000 pieces of Memel timber, of the average length of 50 feet. The measurement of these works is in circuit a mile and three quarters.

We may probably lay before our readers a notice of some of the peculiarities observable in the construction of these docks.

"WONDERS IN LOCOMOTION: NEW MOTIVE POWER."

IN this age of spanking locomotives, such an announcement as that now quoted from the columns of a contemporary is, to say the least of it, somewhat startling. Yet it turns out that the "new motive power" by which these wonders are to be accomplished is by no means very new, even as a motive power; and although the author of the announcement, "Adolph Count de Werdinsky," intimates that this new motive power has been patented, he will find, by reference to No. 230, Vol. V. of THE BUILDER, that even that fact is not very new, the same power, or "patented ingredient," having been patented in this country, by Mr. Fox Talbot, as a motive power, previous to 3rd July, 1847. In short, this great discovery consists in the use of gun-cotton, xyloidine, pyroxyline, or whatever it is to be called, as a motive power. Amongst various modes of adapting it, says the Count, it may be applied directly under the piston, and fired by electricity, so as to supersede the necessity of boiler, furnace, or other cumbrous apparatus. Such is the very nature and description of Mr. Fox Talbot's patent. The explosive material is supplied by a tubular slide under the piston, and that portion of it which protrudes or is pressed through the slide into the piston is to be fired by a platinum wire, thrust through the cylinder,—xyloidine, it appears, having the peculiar and invaluable property of exploding only when and where not under pressure. The Count is hopeful that this new patent will be applied even to street cabs, old ladies' Bath chairs, and dandy's velocipedes, far less to omnibuses and mail-coaches, or common-road locomotives in general,—the economy of it being, as he remarks, enormous, when it is considered—that "all kinds of vegetable fibres or lignine, such as cotton, flax, hemp, tow, sawdust, straw, hay, rags, paper, &c., can be rendered explosive by their being merely dipped for eleven to fifteen minutes in nitric acid, strengthened by an admixture of an equal quantity of sulphuric acid, then well washed in water, and dried for about two hours,"—and that "for an engine of two-horse power [thus supplied (see *Manchester Examiner* of 6th March, 1847) at New Jersey] a thread not larger in size than ladies' sewing cotton is quite sufficient." But not only so: for although "small and compact xyloidine engines are easily attachable to carriages, street cabs, tradesmen's cars, farmers' waggons, dandy's velocipedes, or old ladies' Bath chairs," the Count tells us that since writing the above he has "made a further discovery, and this last one is verging almost on a miracle"—the most prominent of its features being, that not even engines are necessary! far less boilers, "steam, fire, water, magnetism, air, or animal power;" so that if "a thread not larger in size than ladies' sewing cotton" be quite sufficient to propel with a power equivalent to a couple of horses, and without even an engine, we are likely to see *Punch*'s ingenious idea of propelling 'old ladies' with gun cotton 'stay laces' briskly drawn through 'pie holes,' and even without Bath chairs, any more than engines, in one sense realised, or more than realised, indeed, by all the difference between the power of a cotton thread and that of a stay lace. Moreover, by the same wonderful means—or want rather of apparently adequate means, ships may be propelled "without paddles, or any propellers whatever," — pyroxyline, as the naked "propeller" itself, we presume, excepted. After all this, it is useless urging the objection already started, that the gaseous proceeds of gun cotton may corrode the pistons of engines; the Count does not even admit that. But, however ultra-enthusiastic he may be in hopes which themselves remind one of the like, heretofore entertained as to other expansive forces, that wonders may yet be excusably anticipated from the compaction of such forces into forms so convenient as those of which gun cotton is capable, can scarcely be denied, when it is considered, that while, in a simple and most economical way, "all the vegetable fibres in the creation become highly explosive," they nevertheless remain perfectly tractable and manageable by mere matting compression.

NOTES IN THE PROVINCES.

THE foundation-stone of the new buildings for the Farm School at Redstone-hill, Reigate, for the reformation of juvenile offenders intrusted to the care of the Philanthropic Society, was laid by H. R. H. Prince Albert on Monday last. The new buildings will accommodate 120 boys, besides 50 in the old farm buildings: an increase to 500 is expected in a few years. A chapel and school-room are to be built.——St. Lawrence's Church, Winchester, is being re-opened, after a closure of nine months, during which a new east stained-glass window has been put up, at a cost of 200*l*., by Miss Littlehales; the old pews have been replaced by others, and the old flat ceiling taken down, and the roof timbers thrown open.——Upwards of 1,300*l*. have been subscribed for the repewing and other restoration of the ancient church of St. Martin, Salisbury. Two of the principal windows, stopped up some years since, are also to be re-opened, and the spire is to be partly rebuilt, and other improvements effected.——An infirmary chapel is to be built at Worcester, at an outlay of 1,200*l*., partly obtained (300*l*.) from the Jenny Lind fund, and from a subscription list headed by 100*l*. from the dean.——The foundation-stone of the Cheltenham Church of England Training Institution was laid by Lord Ashley on Thursday week before last.——Thornbury Church was to be re-opened on the 1st inst. It has been new roofed, new pewed, new clerestory windows put in, the gallery removed, the interior of the tower restored, and the west window thrown open to view. The floor of the chancel has been relaid with encaustic tiles, and a five-light decorated east window, by Mr. George Rogers, of Worcester, inserted. The architect employed was Mr. F. Niblett, of Gloucester; and the contracting builder, Mr. John Brown, of Bristol.——The new church of Upton, parish of Tormoham, Torquay, lately consecrated, accommodates about 1,000 persons. All the seats are open. The style of the building is Early English, and the material, grey lime-stone, with wrought quoin-stones and carved work and dressings of Caen stone. The elevation is massive, consisting of a nave and aisles, with circular chancel, and the foundation of a tower and spire for the complete design. Total length of interior, with chancel, 120 feet; breadth, 60 feet; height, 70 feet. The chancel and west windows are decorated. A row of circular pillars runs between the aisles and nave.——The lower compartment of the Phœnix tower at Chester is being put into a state of repair.——At Chowbent, a locality not long since notorious for barbarous usages, a mechanics' institute has just been opened, with a lecture by Dr. Hodgson.——Miss Sharpe, of London, has presented additional decorations for the completion of the two chancel windows of the church at Tibshelf.——A public subscription has been announced to be made for repairing the roof of Honiton Church, at an estimated cost of 800*l*. —one-half of which has been contributed, chiefly by the parishioners.——On 24th ult. the foundation of the new congregational church at Leamington was laid.——A corn exchange is about to be established at Dumfries.——Nine new churches are to be erected at Glasgow, and 6,000*l*. have been subscribed for the purpose.——The foundation stone of Patrixbourne and Bridge new schools was laid on Friday, the 27th ult., by the Dowager Marchioness of Conyngham. Mr. Hezekiah Marshall is the architect.

THE OLD WATER-COLOUR SOCIETY.

THE current exhibition of the Society of Painters in Water Colours contains 365 pictures (one for every day in the year), and is as a whole one of the most perfect annual collections ever seen. The sales have been proportionably great, the blue ticket meets the eye in every direction.*

Prout, Copley Fielding, Gastineau, D. Cox, P. De Wint, G. Fripp, Frederick Taylor, J. M. Wright, V. Bartholomew, F. Mackenzie, W. Hunt, have all done their best, and the picture-loving public know well what that is. Cattermole has several small works of great excellence,—amongst them "The Exhortation" (283), and "The Goldsmith" (328), may be pointed out as two of the most perfect things in the room. Oakley has fallen into a manner (the one fault with many of the members), and will need an effort to retrieve himself.

Amongst the seceders from the new society, J. J. Jenkins appears to have made the greatest advance upon his former productions. Topham has several charming drawings,—but, to our mind, less so than some of his previous admirable works. Duncan is, as usual, excellent. Branwhite's 183, "On the East Lyn, North Devon," is a wonderful piece of distemper painting.

Mrs. H. Criddle, who has but recently turned her attention to water colours, exhibits several pictures of considerable pretence and power, and will be found an acquisition.

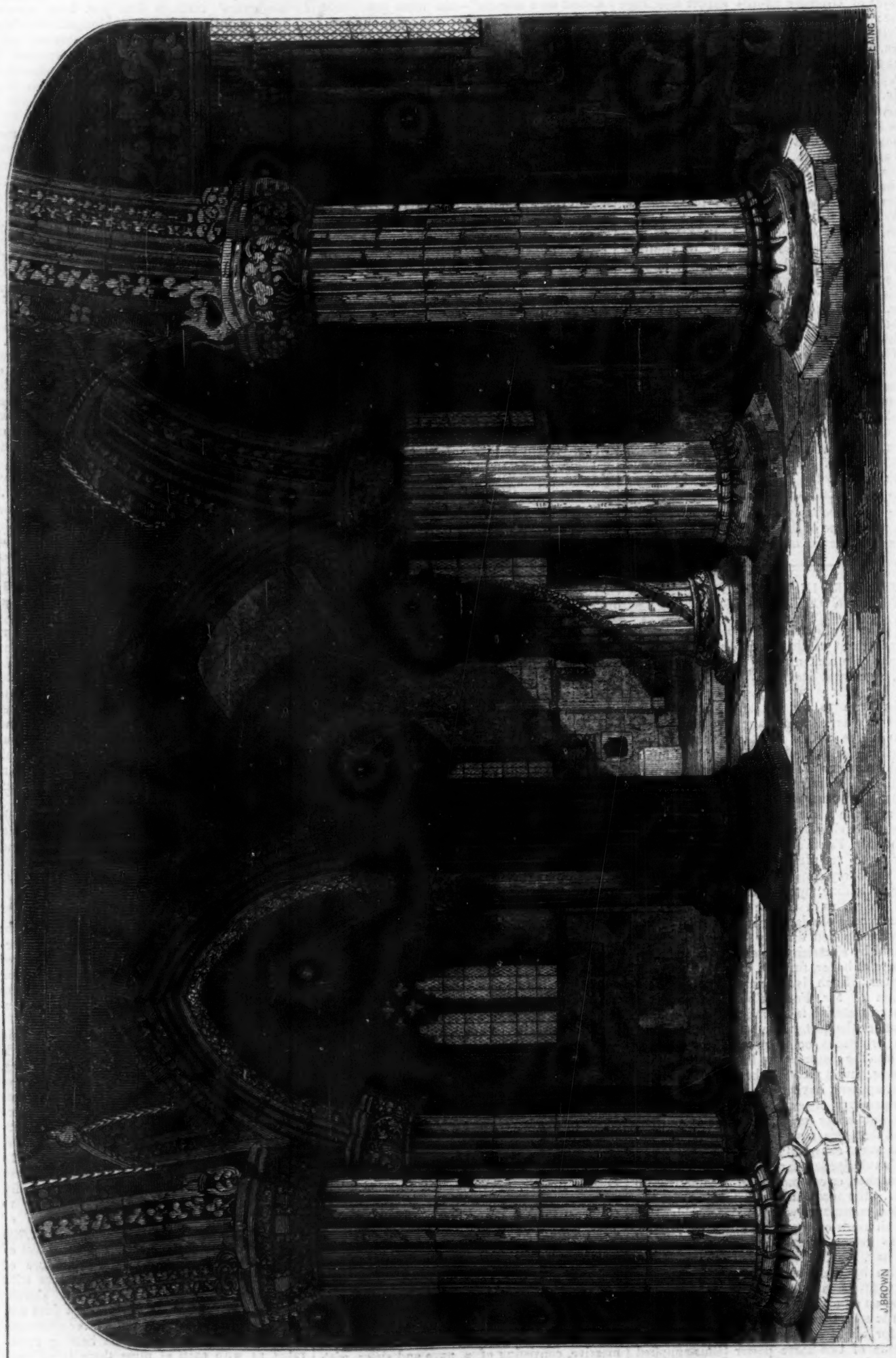
LAUNDRY DRYING CLOSETS.

GREAT attention being now called to the subject of drying clothes and linen, in consequence of the number of public laundries and asylums requiring improved means of effecting that object, I am induced to trouble you with a few remarks, which I trust may be considered of public interest.

It has always been a received opinion (and very justly), that a current of pure fresh air is an important part of the process of drying, but which would appear from the remarks of Mr. Jeakes in your last number to be unnecessary. I have recently erected two very powerful drying closets at the Surrey County Lunatic Asylum, one 20 feet long, 15 feet wide, and 10 feet high; the other 20 feet long, 10 feet wide, and 10 feet high. In each of these a temperature of 230 degrees can be easily attained. Mr. Jeakes's closet, according to his statement, contains 336 cubic feet of space: the smallest of mine is equal to 2,000 cubic feet, and the largest 3,000 cubic feet of space. The usual working temperature of these two large closets is 180 degrees *with ventilation constantly going on*. I should judge the reason Mr. Jeakes's closet does not dry satisfactorily *with ventilation*, is on account of deficiency of power in the heating apparatus, as with each of mine there is at least 144 inches area of ventilation always acting, notwithstanding the high temperature maintained.

WM. HEALY.

* Many of the drawings are bought by dealers to sell again.



[See page 205.

ROSLIN CHAPEL, SCOTLAND.

HINTS TO THE WORKING CLASSES.

We have received a number of letters from working men, relative to a "note" which appeared a fortnight ago in our pages. They deny that a mechanic with a family can save money out of 30s. a-week, and seemed to conclude that the object of the note in question was to cut down wages. This, however, was not the case. The intention of the writer,—a mechanic like themselves,—was to induce men of his class to spend less than they get. We will let him further speak for himself. Personally, we will only say, that, so far from making any endeavour to lower wages, or countenancing any endeavour to do so, we would most gladly assist in getting for the workmen better times, consistently with justice to others. Whatever the wages may be, however, we must always urge our readers to spend *something less* than their amount, if possible. "Another Working Man," or "A Young Joiner," may live very economically, and yet find it impossible to save anything out of 30s. a-week; still, if he look round, he will find thousands who are *compelled* to exist with a family on 20s. a-week. It is not that we would see our artizans in such a strait,—far from it—but, being there, we would have them guard against a worse.

The poverty, wretchedness, and want of employment prevailing so largely at the present time, demand the attention of all parties, but more especially of the working man himself.

If working men were placed in their proper position, they ought to be enabled, during the thirty or forty years' toil they have to pass through, to secure to themselves something like an independence for old age.

It is to the interest of the public at large that every man should have a fair day's wages for a fair day's work; for if the honest and industrious are not sufficiently remunerated to support themselves, they must be supported as paupers, vagrants, or convicts; and when the latter are better supported than the former, it is not surprising that the numbers of the latter should be considerably augmented.

But the difficulty arises in giving any definite sum that may be considered as fair between the employer and the employed. That man who receives 15s. per week complains, and justly too, that it is not enough; the man who receives two or three pounds per week finds it too little; but let a man who has been accustomed to receive only 15s. per week be raised to 30s. per week, he deems himself raised to affluence and plenty; reduce the man who has been accustomed to receive 3*l.* per week to the same standard, he deems himself reduced to starvation: such are the different views of different individuals.

But these remarks are not intended to show what is too much or what is too little, or what is enough; but rather to improve that which we receive, which is the surest way to get more.

We take the average wages of mechanics to be about 1*l.* 10s. per week; but the fluctuation of trade renders their employment uncertain. No work, no money; consequently, with many, little or no bread. Now supposing a man to calculate upon working ten months during the year, and every month he lays by 1*l.*,—he saves 10*l.* for the two months he expects to be unemployed, making an average income of 1*l.* 5s. per week. But many may object to this rule of saving the sum proposed: I see a greater objection in endeavouring to live without any income when unemployed.

There is another stage of life which should excite our attention, viz., old age. Old age is not so tardy in his approaches as many of us imagine. Our abilities for labour soon become enfeebled. The services of the young and active are preferred to ours, and long before we are prepared or willing we are obliged to give place to them. Now that man's case is truly pitiable who has toiled for thirty or forty years and always lived up to his income, and when he most stands in need of the comforts of life, has little or nothing for his support: it is a hard case to supplicate the tender mercy of others, and to receive for his miserable pittance only about the sixth or seventh part of his former money, and that to be doled out with a grudging hand and a reproachful look.

Forseeing such evils as these, which every working-man without a capital has reason to expect, can it be unwise to make a provision for this season of life? If we take another 5s. per week it reduces the mechanic's calculated income to 1*l.* per week; the money so taken makes 10*l.* per year for old age. Now let us look at the benefits resulting from such conduct. The man who saves 10*l.* per year out of his wages has very soon a little capital at command, with this advantage, his pound per week is worth or equal to 1*l.* 5s. of that individual who runs in debt. He can save all this in his purchases by his former savings. By adopting this plan, in the course of thirty years he may calculate on saving sufficient to obtain comforts for his old age. Let young men take the hint; they have a fair starting point.

Further, if this plan were generally adopted it would cause a great increase of trade, which is just what we want. We cannot suppose working men in the possession of a small capital would consent to live in hovels stinking with filth and vermin, and paying after the rate of ten or twelve pounds per year for the same, when they themselves could build respectable cottages, the rent of which would not cost them half that sum. Old ruinous houses would then be forsaken, new ones built, and inhabited by the respectable working classes; we might then calculate on having full employment, which would restore us our other 5s. per week. We hear that poverty and crime are increasing; if so, labour will decrease accordingly. Poverty and crime are like the overflowings of water; as the torrent increases, the embankment yields to its fury; so by the increase of poverty and crime, a nation is involved in ruin.

Further, if this plan were adopted generally, it would be the surest way to keep up good wages; working men would be in a position to resist any encroachment on their rights, but in a state of poverty, they are compelled by circumstances to accept any and every unreasonable offer that is made to them for their labour. I might continue to enumerate advantages; everything reasonably desirable might be gained,—nothing lost but poverty and disease. It is the shortest way, the smoothest passage, to the gold regions of California.

An Old Mason.

PISE AND COB WALLS.

The substance of cob is loam or clay mixed with straw; it is put on in a moist state by means of shovels, so that a course can hardly be raised higher than 1 foot or 1½ foot at a time, without risk of bulging, and then must be left some time to dry and become consolidated, before a second course can be imposed upon it; and when the whole wall is built up it must be pared down to make the surfaces true and even, whereas the Pisé gravel is rammed in frames, is perfectly dry, and comes forth from the frame a hard, and solid, and dry mass, and the wall may be carried to its full height without any interruption or delay, except what arises from moving the frames: the surfaces are quite even and perpendicular; and nothing remains to be done but to fill up the holes where the bolts passed, which is done by ramming in fine Pisé gravel on both sides at the same time,* with cylindrical pieces of wood of the size of the bolts.

The cob walls being put up wet, no bond timber can be inserted for door-posts, window-frames, or floor-joists; but in the Pisé walls these may be put in, as the work rises, wherever they are wanted. One could pull down a cob wall with the hand; but it requires iron to pick down the Pisé gravel, unless it be previously wetted: vermin can make their way through cob, but no animal can penetrate the Pisé; the one kind of work is tedious, from the necessity of allowing the different courses time to dry, and is often unsatisfactory from the fissures which occur from the inequality of the substance that is used, according as it is worked up more or less stiff; the other suffers no interruption; and if there be any fear of fissure, it can easily be guarded against by laying strips of deal 3 inches wide, and ¼ or ⅜ inch thick; the one is feeble and perishable in comparison, the other is said by Pliny to be eternal. The only thing I can compare with Pisé is the old grouting which was formed by filling frames, such as the Pisé frames, with flints or other stones, and then pouring in upon them hot mortar, so liquid that it will make its way into the interstices, and form a compact mass.

Directions for making cob walls 2 feet wide.—The quantity to build a perch of work, that is to say, 18 feet long and 1 foot high, and 2 feet wide,—two loads of clay, and one load of coarse shilf* mixed and wetted, and trodden together to lump, just the same as clay for brick before it is put in the mould. Then take three bundles of barley straw, and turn in on straw part of the above mixture, well treading in the three bundles of straw into the above mixture of three loads of clay and shilf; then build it on the stone wall, about 6 inches at a time, treading every layer down well and solid. The stone wall under the cob ought to be 2 feet in height from the foundation, to keep the damp off from the cob. The cob wall should project over the stone wall about 1½ inch. If the weather be dry, you may build about 5 feet in height at a time; then it may rest about three weeks, till the wall is got dry to build on again, then bind on 5 feet more on the top, if required.

* I doubt whether they have Pisé gravel in Cornwall; what was used at Enys and Penrose I think was artificial.

EFFECT OF OXYGEN ON COLOUR OF GLASS.

At the Society of Arts, on the 18th, Mr. F. Pellatt read a paper on the supposed influence of oxygen on the colour or tint of flint glass.

The author, in commencing his paper, stated that the remarks contained in the same are entirely the result of experience in the manufacture of glass in large quantities, it being only under such circumstances that many of the changes there noticed can be observed, because they are so minute, that in dealing with small quantities, their occurrence would not be perceptible. In speaking of white glass the term is comparative, as no glass is perfectly colourless, and to the practised eye of the glass maker there exist no two pieces of the same tint or shade; the word colour, therefore, is used to denote that particular tint or shade, whatever it be, which all white transparent glass possesses. With these remarks the author proceeded to consider the action of oxygen as affecting the colour of flint glass in two distinct particulars. First, its action upon the glass mixture during its melting or founding whilst in a state of fusion; and secondly, during its annealing or gradual cooling.

The constituents of flint glass are silica, lead, carbonate of potash, and nitrate of potash. The silica is found sufficiently pure as fine sand, which abounds in some districts,—that from Allum Bay, Isle of Wight, is much esteemed. The protoxide of lead—litharge, or the deutoxide—red lead, is the state in which the lead is used, and the potash is the ordinary curl and nitrate of potash of commerce. These, when mixed in certain proportions, and subjected to a strong heat for sixty or seventy hours, produce flint glass. The purer the metal the more transparent the glass, but although all the materials be chemically pure a colourless glass is not the product; owing to some chemical change which takes place during the melting, the glass is tinted with green. This is generally stated to arise from the presence of oxide of iron, but the author believes that in most instances it is owing to the want of a necessary proportion of oxygen in the mixture, which the following experience will go far to prove. The tint of green is always minus when the lead in the glass mixture is in the highest state of oxygenation, that is, when red lead is used, and lowest when litharge is employed in the mixture. When an excess of carbonate of potash is used the green tint is deep, but it may be entirely overcome by the use of the nitrate of potash, and superseded by a purple tint when no metal but lead is present.

Oxygen being the agent by which these changes in the colour of the glass are effected, the glass-maker, in order to overcome the green tint always present when oxygen is

* [*Shilf* means broken slate, in small pieces, such as is used for mending roads in parts of Cornwall.—Ed. *Ecclesiologist.*]

minus, uses the oxide of manganese, which has the property of giving off its oxygen very slowly. An excess of manganese gives to glass a purple tint, and where altogether absent the glass is always green.

Having thus called attention to the peculiar composition and mode of manufacturing flint-glass, he proceeded to describe the changes which take place in the colour or tint of glass, and the methods employed by the glass-manufacturer to convert the mass from a green, purple, amber, or other tint, to a pure or colourless metal, and brought forward examples tending to prove that the changes in the colour of the glass are due to the presence or absence of a given proportion of oxygen. Manganese, as a metal, gives no colour to glass, although by the oxygen it yields to the lead in the mixture, a purple colour is produced, because by reducing the quantity of oxygen, either by polling or subjecting the glass to a long-continued heat, or by submitting it to the action of carbon, the purple colour is removed, though the manganese still remains. Iron and copper also assume different colours when combined with different proportions of oxygen. If this be true, may not all colours of the oxygen of other metals, such as iron, copper, and lead, be due to the combination of certain proportions of oxygen with the metal or metals present, so as to induce a particular molecular arrangement, from which the glass has the power of absorbing a particular colour?

THE MANCHESTER SCHOOL OF DESIGN.

At the annual meeting of the Manchester School of Design, held on Tuesday in the week before last, the Bishop of Manchester, who presided, said the advantages of schools of design, in whatever point we looked upon them, stood out pre-eminently conspicuous. Whether we regarded them as a means of improving the manufactures, and consequently the trade of this country,—there they stood pre-eminent; whether we looked upon them as means of raising the lower classes in the scale of civilisation,—there again they were most effective; whether we regarded them as a means of opening a source of happiness to every class of our fellow-creatures, who had hitherto had the study of art placed out of their reach,—there again they were most valuable. But he could take even higher ground. He had found, from experience, the school of drawing and design most valuable in providing a means of innocent, useful, and valuable instruction to the lower classes, at a time when temptations of a diametrically opposite character were calling them from their homes to vice and indulgence; he had found that, independently of enabling them to carry home a new feeling and sensation to their dwellings, it had rendered them more keenly alive to the beauties of nature, and more capable of understanding and admiring the wisdom and benevolence of their God.

The report, which was read by Mr. Gregan, expressed regret that the great body of the manufacturers engaged in that particular branch of trade to which the school is so decided an auxiliary, still continued to manifest so small an interest in its proceedings, and to contribute in so slight a degree to its support. "We are all sensible enough of the importance of good design in our industrial productions, and it is surprising that so little pains should be taken by those most nearly concerned to secure it. In many cases, indeed, corporations and town councils have publicly supported these schools, while, in the manufacturing metropolis of England, no public aid whatever is granted to an institution, which, if endowed with more extended means of usefulness, is calculated so much to enhance the commercial value of our manufactures."

From the treasurer's statement it appeared that the receipts for the year ending December 31, 1848, were:—Government grant, 390*l.*; annual subscriptions, 302*l.* 8s.; students' fees, 142*l.* 10s.; fees from private classes, 87*l.* 3s.; balance due to treasurer, 212*l.* 1s. 11d.; total, 1,134*l.* 5s. 1d. The expenditure amounted to 1,134*l.* 5s. 1d., of which the principal items were:—salaries of masters, 465*l.* 17s. 9d.; secretary's salary, 50*l.*; rent of rooms, 220*l.*; printing and advertising, 41*l.*; gas rent, 50*l.*; books and works of art, 31*l.* 10s.

Mr. F. C. Calvert contended that the School of Design had not hitherto flourished, simply because of the system of working adopted, which he believed neither met the hopes of the pupils nor the wishes of the supporters. He suggested that, after three years' study, five of the most proficient pupils in the institution should be selected, to whom assistance should be given if they were not able to support themselves, while they were advancing themselves in their studies; afterwards the most proficient of them should be sent upon the continent, under the protection of the school, to study in France, at Rome, or any other great centre of art, where those arts might be cultivated which would be most beneficial to that district.

ARCHED BRICK FLOORS, BIRKENHEAD.

In a report, in your valuable journal, of the paper read by Mr. Rawlinson, that gentleman, quoting from a manuscript by Mr. Chadwick on the improvement of building materials, mentions that the floors of the "improved dwellings for workmen erected at Birkenhead were constructed of brick, in flat arches about 6 feet span. The spaces between the upper part of the arches and the spandrels were filled in by mortar, on which flat tiles were imbedded."

As the architect of these dwellings, which were designed by me and commenced in 1845, you will perhaps allow me to make a slight correction in this statement. The arches, some of which were 7 feet in span, were turned in what is termed half brick, except at the springing and the skew backs. I caused also a certain number of three-quarter and other parts of bricks to be inserted, so as to form a toothing or vertical bond with the *concrete* with which the spandrels were filled in, and *not with mortar*. The six or seven crown courses were wedged in with slate while the mortar was wet, and the consequence is, that in no one instance has the least subsidence taken place at the crown, although subjected to very severe trials,—the stairs having been used by the labourers for carrying up all the materials, and the men often jumping from the walls upon the arches. I think, however, 7 feet is the limit of a half-brick arch turned in mortar with the ordinary rough brick. The arches rise about one inch to every foot in span. The tiles were laid in mortar on the concrete, which made the thickness of the floor at the crown of the arch about $5\frac{3}{4}$ inches. There were altogether about 1,200 arches of this kind turned, and without the slightest accident.

Chas. Evans Lang.

USE OF HOLLOW BRICKS.

As much attention has been drawn to the subject of hollow bricks or pots, by your notice of the erection of the great arched ceiling at Liverpool, I beg to observe they were, I believe, first introduced in England about 55 or 60 years ago, by Henry Holland, the eminent architect of his day, at Drury-lane theatre, Carlton House, and other of his buildings.

I am not aware of any reason for their not being generally adopted, but that they were probably more expensive, and also were something out of the common way, and required more attention and care in execution, and therefore gave trouble to the operative builder, who would in consequence perhaps discountenance and shirk them.

The building world was sleepy in those days compared with the present, and were content to follow in the footsteps of their forefathers without much thought. But "we have changed all that," and as in the political world so in buildings, there is a rage for new things, and the difficulty is in steering clear of extremes. "There is a moving power and a steadying power—there is the sail and ballast; without the former there would be no progress, without the latter little safety." This has been said in a well-known Review of Whig and Tory in politics, and may be applied to all matters where much change is contemplated.

With reference to large arches, it may not be irrelevant to observe that the Adelaide Gallery, in the Strand, is arched with three or four courses of plain tiles in cement, forming at once roof and ceiling. It was thought a bold novelty at the time, and particularly as it is perforated with circular openings for sky-lights.

This was done, I believe, by a builder, Mr. Herbert; the principal thing, however, that the world looks at is

"Non quo sed quomodo."

COMMONS' COMMITTEE ON SCHOOLS OF DESIGN.

On Friday, the 27th ult., the examination of Mr. Stafford Northcote was resumed. It was somewhat vague. He knew nothing of the proportionate value or importance of the various classes of manufactures in this country. He approved of public exhibitions of designs, but there had been none for more than two years: they had been overlooked. Mr. Poynter followed. He thought the provincial schools "mere drawing schools," as late as 1847; but that this defect was remedied by Mr. Wornum's lectures, and he could suggest no further improvements.

On the 30th, Mr. Dyce was examined. He showed, that at one time design was really cultivated in the school, and then abandoned. He thought the present system impracticable, and had resigned in consequence. The present committee of management ought to be changed. The responsibility was divided and uncertain. Mr. J. C. Horsley, formerly a master, followed. His evidence proved that the present system was wrong and impracticable, and that he had resigned because he found it so. There had been constant changes and no fruits.

May 2nd. Mr. Wakefield, one of the largest garment fabric printers at Glasgow, proved that the school had not influenced the designs in his trade. He was friendly to the schools; but thought them failures in that respect. The masters ought to know the practical working of manufactures. The evidence of Mr. Nickisson, an agent for manufacturers, was to the same effect: he had been a student in the school for five years, and did not think "design" was properly taught.

RAILWAY JOTTINGS.

That tricks *can* be played with railway tickets appears but too plainly, from the detection of a clever system of fraud practised on the Yorkshire and other lines, by a traveller to a London chemical firm. He appears to have been allowed to retain his legitimate tickets by wholesale, eighteen having been found in his possession, with chemical erasures ready for future occasions, besides an altered one, by means of which he was detected. Types were also found in his pocket. With these he appears to have managed to make all the requisite alterations which enabled him to 'come over' the officials again and again in his travelling trips from one town to another. The only question in his prosecution was whether to charge him with fraud or forgery, for the latter of which it was ultimately decided that he shall stand his trial at the next York Assizes.——Another system of fraud with tickets by conspiring officials themselves was lately discovered on one of the Northern lines. By connivance with the issuer of the tickets, a guard returned so many to his confederate at every trip for reissue, the parties sharing the proceeds between them to a heavy amount.——The London and North-Western Company conceiving themselves entitled to open carriers' parcels of parcels, and charge separately for each separate article in the aggregate package, did so in the case of a Mr. Crouch, who brought an action against them lately at the Warwick Assizes. The Judge (Chief Justice Wilde) said the defendants were bound to charge an equal price to all alike, and he could not see what other conclusion could be come to but that in the present case they had made an excessive charge. Verdict for the plaintiff; damages, 49*l.* 4s. 2d. A special jury case, in the Court of Exchequer, stands adjourned to Trinity term, in which Mr. Crouch, the plaintiff in this action, sues the company for special damages.——In a case of compensation at Bradford, to Messrs. Ripley,

dyers, by the Lancashire and Yorkshire Company, the evidence for the claimants went to prove that they would suffer to the extent of from 1,000*l.* to 1,500*l.* by the loss of light and ventilation; that the value of 4,190 yards of land required by the Railway Company would be 838*l.*, being 4s. per yard; and that the loss by severance, upon the rest, 11,673 yards, would be 875*l.* 9s.; being 1s. 6d. per yard. An arrangement was come to with respect to the loss of light and ventilation, and the jury, in reference to the land required, gave a verdict for the claimants—damages, for 4,190 square yards of land, 2s. 6d. per yard, or 523*l.* 15s., and for injury by severance, 150*l.* —— What will competition do? says a contemporary. The London and North-Western and the East Lancashire are rival lines. The North Union used to charge 6s. first class, 4s. second-class; 3s. 3d. third-class. The present fares are 1s. 9d., and 6d. ——Perhaps many are not aware that the Great North-Western have still competitors in the shape of canal fly boats which ply regularly between London, Birmingham, Wolverhampton, Liverpool, Manchester, Stafford, "and all parts of the kingdom."——It is said that the engine manufactory of the North-Western at Crewe, turns out a new locomotive and tender every Monday morning——The atmospheric tubes on the South Devon line are about to be sold as old iron.——A novelty in railway excursions is to come off in May, namely, a trip between Dublin, London, and back, for two guineas, *viâ* the Chester and Holyhead and the North-Western.——It is stated that one half the receipts of the Bristol and Exeter have been offered to the Great Western if they would work the traffic, but that the proposition was not entertained by the Paddington authorities. ——The directors of the Great Western, says the *Times*, have at length found that the abolition of 'return-tickets,' more especially on short distances, has tended considerably to decrease the traffic on the line, and on and after the 1st of May it is their intention to reissue return-tickets, for the day only, to be available until 12 o'clock at night. The reduction will be 25 per cent. on the single journey, that is, the cost will be a fare and a half for a return-ticket. No return-tickets will be issued for third-class trains.——The South-Western have adopted the system of second-class season tickets, and made a reduction in charge on first-class tickets, 'to encourage residents in the vicinity of their railway.'—— While clearing away old buildings at the Landport joint terminus, Portsmouth, four workmen were lately buried under the wall of a house, which they persisted in further undermining, although warned of the risk.—— The opening of railway communication between Edinburgh and Galashiels has had the rather odd effect of opening up an insatiable demand at Galashiels for milk from Edinburgh: think of London supplying a country town or village with milk! Coal and other articles of general consumpt have also been greatly cheaper at Galashiels, since it has had the advantage of railway communication. ——The post-office authorities have authorised the opening of post-office letter-boxes at every 'first class' railway station in the kingdom. ——With reference to late proceedings, there has been some talk in the Houses of Parliament about the appointment of a more effectual system of auditing railway accounts. Mr. Labouchere stated, that if a measure did not emanate as he expected from a Committee of Lords now sitting, he should himself submit to the Commons a measure on the part of Government to that end. Some of the disclosures recently have been startling.

Paris Exhibition of Modern Art.—The National Assembly has determined that the annual exhibition of the modern productions of art shall take place in the ci-devant palace of the Tuileries, now named the "Palais National." It will not open before the 15th of June. The Exposition of Industrial Art will open June 1.

Coal Tar.—Mr. R. A. Smith, of Manchester, has obtained a patent for some improvements in the application and preparation of coal tar, which are described to consist in the preparation and application of coal tar to coating the interior surfaces of water-pipes.

THE MINER'S LIFE.

We take the following graphic sketch of the discomforts and perils which environ the miner, from a recent article in the *Times*:—A large and increasing part of the British population lives a hazardous, uncouth, and cheerless life in the bowels of the earth, further than Lynceus ever saw, and deeper than Cyclops ever descended. So little are we, of this upper earth, accustomed to dive below the surface, that in order to form any idea of the level at which a collier does his daily work, we must measure it by something above our heads. We must suppose our wives and children on a level with the cross of St. Paul's, perhaps twice or even three times higher, and ourselves daily descending by ropes to the sewers of this city. We shudder at the thought of hardy islanders suspended over the precipice in quest of birds' eggs. The collier's descent is often deeper, and his doom, should he fall, more certain. Should he miss a step at the "bank," should the rope break in his descent, should a wheel in the engine be out of gear, or a peg out of place, or should the boy at the pit's mouth be inattentive for a moment, the next instant basket, rope, and man lie an undistinguishable mass at the bottom of the shaft. But that is only one, and not the greatest of his dangers. The miner moves in an atmosphere into which a million chinks and pores distil a deadly vapour. The very air he breathes is a magazine of destruction. Wherever he extends his labours he lays bare a new surface, and starts a fresh foe. In these upper regions the natural currents of the air diffuse and carry off all noxious effluvia as fast as they arise; but the natural atmosphere of these wonderful vaults is itself a poison, and the vital air we breathe must be artificially introduced, in quantities sufficient, not only for human consumption, but for the expulsion of local gases. A strong current of fresh air must be brought down a shaft, conducted through the whole mine, carefully sweeping every corner and recess, and so passed up another shaft to the surface. If this current is insufficient, or accidently interrupted, the foul vapours accumulate, and a naked candle, a spark, or a lighted pipe explodes the whole mine, burning, suffocating, or dashing to pieces every living being in its range. The explosion which drives out by the pit's mouth the whole mass of air within entails a reaction not less deadly. The "after-blast" finishes the work of destruction. The list of perils is not complete unless we add that everywhere are suspended over the collier's head vast masses of material ready to fall and bury him at his work.

THE AMERICAN BOWLING SALOON.

DECORATION.

A large apartment at the back of 393, in the Strand, formerly an auction room, has been suddenly converted, at some cost and with considerable taste, into a handsome saloon for bowling on the American system. The walls are formed into panels, containing pictures and glasses, by pilasters, with other segmental panels above, containing children and scroll-work on a maroon ground. The ceiling is in panels and painted medallions,—bas-reliefs, wreaths of flowers, &c. fill various spaces. It is lighted by skylights, and tastefully fitted up. At the far end are casts of the Graces and the Nymphs of Canova, Diana, Ceres, &c. It is altogether a clever piece of decoration of its kind, and very creditable to Mr. C. Norwood, of Hoxton, by whom it has been executed.

The Louvre.—The wing of the Louvre called the Gallery of Apollo is undergoing extensive repair, and a great number of workmen are employed in it. The timbers of the roof were found so much decayed that the entire reconstruction became necessary. Visitors to Paris before the Revolution of February may recollect the statue of the unfortunate son of Louis Philippe, the Duke of Orleans, adorning the centre of the Court of the Louvre. This has been removed, as offensive to republican notions, and preparations are making to transport the fountain of the "Marché des Innocens" to replace the statue, which is, *for the present*, condemned to oblivion.—*Art-Journal.*

Books.

The Ecclesiastical and Architectural Topography of England. Parts I. and II.—J. H. Parker, Oxford and London.

In Mr. Parker's late excellent edition of Rickman's work, the brief notices of churches which were given by that author were omitted, with the intention of publishing them separately, with such additions as should render the list a complete dictionary of the ecclesiastical edifices of England. This intention is now being carried out under the title at the head of this notice. Each part contains one county (No. I., Bedfordshire; II., Berkshire), and it is intended to publish the succeeding parts at the rate of four in the year. Buckinghamshire will form No. III.

Outlines of General Knowledge. By H. Ince, M.A. *Ince's Outlines of English History. Ince's Outlines of French History.* Gilbert. Paternoster-row.

Very useful little books, well deserving the circulation they have obtained.

Miscellanea.

The Metropolitan Sewage Manure Company held their usual half-yearly meeting on Tuesday last, when the reports of the directors and engineer were read and adopted, after a somewhat lengthened discussion. The report of the directors congratulated the shareholders on the amicable relations established between the company and the Metropolitan Commission of Sewers, and the permission given them to communicate, by means of a pipe, with the Ranelagh sewer, and with the Eel Brook and Stamford Villa sewers. By these arrangements the company would be enabled forthwith to carry out its operations within the Fulham district, without incurring the large outlay that would have been required had they proceeded to the construction of the tunnel sewer. Contracts had been entered into with market gardeners for the supply of about 100 acres, for 70 of which service pipes were being laid. Recriminations and explanations were entered into as to the treatment of Mr. Moir, the late secretary of the Company, who had been defied, it was alleged, to 'do his worst,' and who accordingly did his worst, by taking the company to law, at a cost to them of 600*l.* to his legal supporters, besides several hundreds to their own solicitor, and 400*l.* a-year as salary to himself. He had then, as a shareholder, thrown the company, for contravening their Act of Parliament, into Chancery. During the discussion it was elicited that more than half of the nominal capital of 175,000*l.* had been taken up. On the whole, although the 'bandying of reproaches,' as one shareholder termed it, was still considerable on various points, there did not appear to be so strong an *animus* against the proceedings of the directors as at the last general meeting.

The Diorama.—The new view at the Diorama, "the Valley of Rosenlaui" in the southern part of the canton Berne), painted by M. Diosse, is a pleasing picture of mountain scenery, diversified by the effects of a storm in the Alps. When the clouds are clearing off and the returning sun gilds the highest peaks of the mountains, the view is at its best and exceedingly effective. The second picture, "the Church of Santa Croce," at Florence, was exhibited some years ago, but is none the less deserving of a visit. The changes in light and shade are quite marvellous. From the broad light of day, shewing every tile with which the immense area is paved, and every stone of the Corinthian columns which form the numerous chapels down the aisle, to the deep darkness of midnight, when a few candles bring into view merely one altar, the figure of the Virgin, and a few projecting cornices, the various gradations are exhibited with such surprising effect that it is difficult to believe we are gazing on a picture painted on a perfectly flat surface of canvas.

Royal Academy.—The following gentlemen have been recently admitted as architectural students, namely, Messrs. F. C. W. Anderson, James Brooks, Richard Norman Shaw, Horatio Nelson Goulty, Harry Robert Newton, John Nicholls, Cyril Jackson Stafford, and Sidney Godwin.

PROJECTED WORKS.—Advertisements have been issued for tenders,—by dates not specified, for the erection of parsonage-houses at Maplebeck, Rihoulton, and Nottingham, and for a church and parsonage-house at Hasland, Derby; by 16th inst., for rebuilding the upper part of the spire of St. James's Church, Clerkenwell; by 31st, for the erection of judges' lodgings at Aylesbury; by 16th, for repaving and repewing Cowbridge Church, Glamorganshire; by 11th, for the erection of a block of dwellings near Spicer-street, Spitalfields; by 12th, for the various fittings required for lighting with gas the Borough Asylum for insane paupers, at Birmingham; by 8th, for deepening the bed of the river Medway; by 23rd, for the erection of an asylum for pauper lunatics in the county of Warwick; by 11th, for the erection of an infirmary at the Uxbridge Union, Hillingdon, Middlesex; by 21st, for the erection of five small houses near Blackheath; by 14th, for the erection of the Normal College for Wales, at Swansea (extension of time); by 16th, for the construction of brick arches and piers, &c., in widening Manchester station of North-Western Railway; by same date for the construction of an iron viaduct for same; by 12th, for the erection and completion of portion of an extensive range of farm steading, near Warrington; by 8th, for the erection of a farm-house at Broom, Warwickshire; by 10th, for the labour in erecting farm buildings at Preston-upon-Wye; by 30th, for the execution of cast and malleable iron work for passenger shed and roof of central railway station at Newcastle-on-Tyne, and for supplying the glass for roof and other parts of same; by 7th. for the erection of a third portion of market avenue at Ashton-under-Lyne; by 26th, for the erection of sundry buildings and works at the new barracks, Sheffield; and by 9th, for a supply of pig-iron, pig-lead, ironmongery, &c., for the East-India Company.

COMPETITION.—The time for receiving plans for the restoration of Bridgewater Church is extended to 14th inst.

LAND SURVEYORS' ASSOCIATION.—The general association, some time since noticed in THE BUILDER, has given rise to a more select institution, under the title of "The Surveyors' Association," with rules of a more or less stringent order for the admission of members, the regulation of the affairs of the association, and the protection and promotion of the interests of the legitimate members of the profession. By section III. of the published code of regulations, it has been resolved that the association shall consist of three classes—viz., members, graduates, and honorary members. Every candidate for admission as a member must be twenty-four years of age, and have been regularly educated as a land surveyor, according to the usual mode of pupilage, or have acquired a knowledge of the profession in the office of a land surveyor for three years, and had a subsequent employment as such for three years further, one of them at least on his own account.—Graduates must be eighteen years of age, and have been two years in the office of a land surveyor, or under a course of instruction as land surveyor, and still in the profession. By section V. it is appointed that each member shall pay an annual subscription of one guinea, and each new member an entrance fee of one guinea. Each graduate shall pay annually half-a-guinea, and each new graduate an entrance fee of half-a-guinea. Members may compound for seven years by payment of five guineas, or for life, twenty guineas. The association already numbers fifty members, admitted in accordance with the regulations. Mr. Thos. Thurston, Ashford, is the chairman for the current year, and Mr. William Murray, 21, University-street, is the hon. secretary.

YORKSHIRE UNION OF MECHANICS' INSTITUTES. The Earl of Carlisle has consented to preside at the evening meeting of the Yorkshire Union of Mechanics' Institutes, which will be held at Hull, on Wednesday, the 30th of May. There are now seventy-nine institutions in the union, and nine more seeking to be admitted at the annual meeting—making a total of eighty-eight institutions, containing about 16,000 members. On the day after the meeting there will be an excursion to Flamborough Head.

THE STEAM DOCKS AT KEYHAM, DEVONPORT.—It appears from a late debate on ways and means, that Government, about six years since, proposed an expenditure of 400,000*l.* for steam-dock accommodation, whereby, it was alleged, no less than 25 per cent. would be saved on repairing contracts. First, therefore, the comparatively modest instalment of 30,000*l.* was called for and voted; but the appetite for more appears to have grown, as did the estimate, with what it fed on, even down to the present moment: the following summary will shew the past and present state of these works of economy and saving:—

	Total estimate for New Steam Basin.	Instalment granted for the year.	Leaving still due.
1844-45 ..	£400,000 ..	£30,000 ..	£370,000
1845-46 ..	675,000 ..	100,000 ..	545,000
1846-47 ..	675,000 ..	133,000 ..	412,000
1847-48 ..	675,000 ..	120,000 ..	292,000
1848-49 ..	1,225,000 ..	150,000 ..	692,000
1849-50 ..	1,225,000 ..	120,000 ..	572,000

And, moreover, it is now said that the works were so hastily and injudiciously begun, that their chief utility will be entirely neutralized by their very situation, on a lee shore, with a depth of water too small to admit large steamers at ordinary full tide. Of course, with 572,000*l.* still to follow the 653,000*l.* already paid out, the works are as far from completion as they appeared to be when founded.

BLIND BUILDERS.—Tenders delivered for the New Market House, Brentford, April 27.

Figg	£4,725
Burton	3,777
Burchett	3,648
Glenn	3,490
Nye (accepted)	3,453
Taylor	3,197
Higgs	2,929
R. and E. Curtis.....	2,887
Tombs	2,786

IMPROVEMENTS IN CHISELS AND GOUGES.—Mr. H. Wilson, a foreman at Sheffield, has obtained a patent, in the specification of which he states, that in the manufacture of chisels and gouges it has been the practice to make some with sockets and others with tangs, for the purpose of affixing the handles to the same, the tangs and sockets in each case being used alone. The object of this invention is to combine the use of a socket and a tang with the same chisel or gouge, whereby each of such tools may be applied to the ordinary uses of a chisel and gouge, and to morticing, so that the workman will not require to have a tool for each purpose. The old socket-chisels and gouges have wooden handles inserted into their sockets; these handles, when the tool is being used, receive the blows or strokes of a mallet, and often those of a hammer, and are much subjected to lateral strain, from which circumstances the handles are liable to break off at the upper edge of the sockets, and the patentee considers that the addition of tangs to such tools will give greater stability to the handles. The ordinary tanged chisels and gouges also have wooden handles, which are drilled, and the tangs are driven into them, and in some cases ferrules are applied to the lower parts of the handles. The handles of these tools are liable to be split, not only by the side strain to which they are subject when in use, but also by reason of the tools being often driven by a mallet or hammer, and it is to obviate these defects that the patentee proposes to combine sockets with the tangs.

STEAM 'CUTTERS' FOR FROZEN SEAS.—Commander Joseph West, an officer of experience and skill, says the *United Service Gazette*, has proposed the construction of ice hammers and saws, to be worked in steamers by the engine shafts. The main object appears to be the navigation of the arctic region in search of Sir John Franklin's expedition; but the like invention seems to be feasibly applicable to the rapid opening of a way for shipping and commerce in northern ports when frozen up, and at a stand in winter. Ice 4 to 5 feet thick, it is calculated, may thus be broken up by hammers of 15 to 20 cwt., working alternately on each side before the stem of the vessel, which may be worked either by screw or paddle.

BATTLE MAPS.—With singular rapidity Mr. Wyld has published plans of the last battles in India, which will be examined with interest by those interested in military tactics, or who have friends fighting there.

BRIDGES IN CHINA, &c.—The bridges are variously constructed: some consist of a single arch, others of three or more arches, and some are merely a series of stone piers, with large stone slabs laid across them, as described by us in our account of the famous bridge at Foochow-foo. Some bridges are built of red granite, and others of a greyish marble, cut into blocks 5 feet or more in length, which are laid alternately end-ways and cross-ways. The arches are very high, are semi-circular, circular and polygons in shape, and the bridges have steps at either end. Some are very handsome structures, particularly one a few miles to the west of Pekin, which is composed of white marble, beautifully cut and ingeniously devised. The balustrades are composed of 70 small pillars, on either side intermixed with marble tablatures, carved with birds and animals, foliage, and flowers.—*China and the Chinese.*

RIPON DIOCESAN CHURCH BUILDING SOCIETY.—The half-yearly meeting of the Central Committee was held the week before last, at Ripon, when grants were made towards the following objects:—400*l.* for the erection of a new church at Gomersal, which will contain 466 free sittings; 200*l.* for the endowment of St. John's Church, Bradford, and a like sum for the endowment of St. Mary's Church, in Sowerby, near Halifax; 200*l.* each for the erection or purchase of parsonage houses for Holy Trinity, Ripon, St. Jude's, Bradford, and Ingrow-cum-Hainworth, near Keighley.

INSTITUTE OF BRITISH ARCHITECTS.—At a meeting on the 30th April, Messrs. R. C. Baxter and R. J. Withers were elected associates. The first part of the following paper was read by Mr. J. W. Papworth:—"On some features of the connection between the Architecture and Chronology of Egypt; with an account of the Work lately presented to this Institute by Mr. J. B. Le Sueur, Architect, of Paris, being his Essay 'On the Chronology of Egypt illustrated by its Monuments,' to which the medal of the Institute of France was awarded in 1847."

EXHIBITION OF MACHINERY AT GHENT.—A special exhibition of machinery, frames, looms, and implements of trade (of Belgian or *foreign* make) employed in the manufacture of yarn and tissues of all sorts, is to be opened at Ghent (on the occasion of the exhibition of the produce of the industry of Flanders) in the month of July. Special rewards, consisting of commemorative medals, of gold, silver, and bronze, will be awarded to such exhibitors as shall appear to merit such a distinction.

BEDFORDSHIRE ARCHITECTURAL SOCIETY.—A joint meeting of the Northamptonshire Architectural Society and the Bedfordshire Architectural Society is appointed to take place at Higham Ferrers, on Tuesday, the 8th. The Marquis of Northampton will preside, and an excursion is proposed to some neighbouring churches on the following day.

RATING RAILWAYS.—We understand that the South-Western Railway have successfully appealed against the rating of their line by the parish of Romsey. The parish wanted 200*l.* per mile, the court gave 25*l.*

THE IRON TRADE.—At present the prices of wrought and pig-iron are pretty well sustained, though we fear very little of the former has realised the nominal price of 7*l.* 10*s.* per ton.

NOTICE.

ON Tuesday was published, Part I., price 2*s.* 6*d.*, of "BUILDINGS AND MONUMENTS, MODERN AND MEDIÆVAL:" being Illustrations of recently-erected Edifices, and of some of the Architectural Works of the Middle Ages, with Descriptive Particulars. Edited by George Godwin, F.R.S., Fellow of the Royal Institute of Architects, &c.

The first part of this work (to be continued every alternate month) contained Engravings on Wood, folio size, of—

Her Majesty's Marine Residence, Osborne; with Plan.

The Carlton Club House, Pall Mall.

Church of St. Isaac, at St. Petersburgh; with Details.

Kensington Union Workhouse.

The Liverpool Branch Bank of England; and Details.

The New Throne, Canterbury Cathedral.

The North Porch, Restored, of St. Mary Redcliffe, Bristol.

The Interior of Lincoln's-Inn Hall.

Published at the Office of "THE BUILDER," 2, York-street, Covent Garden.

TENDERS

For the parsonage house and enclosures for the district of Saint Bartholomew, Bethnal-green. Mr. Alfred R. Mason, architect.

Hicks	£1,360
Holland	1,258
Lock and Nesham	1,250
Piper	1,229
R. and R. Curtis	1,173
Hill and Co.	1,154
Joshua Wilson	1,153

MEETINGS OF SCIENTIFIC BODIES

Held during the ensuing week.

MONDAY, May 7th.—Institute of British Architects (Anniversary).

TUESDAY, 8th.—Institution of Civil Engineers, 8 P.M.; Freemasons of Church, 8 P.M.

WEDNESDAY, 9th.—Society of Arts, 8 P.M.; Graphic Society, 8 P.M.

THURSDAY, 10th.—Royal Society, 8½ P.M.; Society of Antiquaries, 8 P.M.

FRIDAY, 11th.—Archæological Association, 8½ P.M.

TO CORRESPONDENTS.

Received.—"Spectator" (we agree with our correspondent in preferring reality to sham), "R. S.," "W. H." (can our correspondent send us a report?), "J. H. L." (we shall be glad to receive remainder of the article), "A Constant Reader," "W. P. M." (we shall be glad to receive particulars), "J. C." (Warrington), "J. M.," "W. F. and T. W.," "W. W. jun.," "J. W. P.," "A. G." (we have no "antipathies" or "prejudices," but we have convictions), "F. G." (inquire of Mr. Abrahams, at the Westminster Improvement Office, Great George-street, Westminster), "J. B." (Newark), "Scripio" (we are not friendly to such separation of classes), "Mr. G." (one set of THE BUILDER, complete, in green cloth, can be had at 21s. per volume), "W. T.," "J. B.," "Jacobus" (we have reason to believe the Dundee arch competition is scarcely settled even yet. We have no precise information beyond what has appeared in our pages). "Dolman's Magazine," "Blackwood's," "The Art Journal," "The Journal of Design," No. III.; "Con Cregan," No. V. (Orr and Co.); "Journal of the Franklin Institute."

"*Books, Prices, and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

ADVERTISEMENTS.

LONDON MECHANICS' INSTITUTION, Southampton-buildings, Chancery-lane.—Mr. ROBERT HENSON will give the first of two LECTURES on the MARBLES and ORNAMENTAL MASONRY of the BRITISH ISLANDS, on Friday, May the 4th. The lecture will be commenced at half-past Eight o'Clock in the evening, and will be illustrated by numerous and beautiful specimens. Non-Subscribers admitted to the lecture, by tickets, 6d. each. Prospectuses, containing terms of subscription and other particulars, may be obtained at the Library of the Institution. Tickets for the half-quarter are now being issued.

ANDREW M'FARLANE, Secretary.

ROYAL POLYTECHNIC INSTITUTION.—The collection of Models of Agricultural Implements has been greatly increased by additions deposited by the Royal Agricultural Society and other scientific parties. The use of these Models, as well as all others in the Institution, is explained from day to day. Lectures on the Ventilation of Mines, &c., by means of a Jet of Steam, daily at Two o'clock, and on alternate Evenings. Lecture, by Dr. Bachhoffner, on the various modes of producing Artificial Light, daily at half-past Three, and on alternate Evenings. The Microscope. The new Dissolving Views include Scenes in Van Dieman's Land, from Original Drawings taken on the spot by J. Skinner Prout, Esq. New Chromatrope. Diver and Diving-bell, &c., &c. The Music is under the direction of Dr. Wallis.—Admission, 1s.; Schools, half-price. The New Catalogue, 1s.

STATUES, VASES, FOUNTAINS, Garden Ornaments, Coats of Arms, and Architectural Embellishments, in Imperishable Stone, at reduced prices, by VAUGHAN and Co., 60, Stone's-end, Borough, London.

CROGGON, late of Coade's, Superintendent.—A liberal discount to the trade.

WORCESTER ENCAUSTIC TILE WORKS.—To clear the remainder of the STOCK the Proprietor has determined on reducing the price of ornamental pavements to 1s. a square foot.—Apply at the Works, Palace-row, Worcester.

N.B. Designs for pavements sent by post to suit the space intended to be covered, and the date of the building.

TO ARCHITECTS, BUILDERS, AND RAILWAY CONTRACTORS.

BRICKS and TILES, plain and moulded, manufactured in a superior manner, from fine beds of clay on the Earl of Leicester's estate at Holkham, of red, blue, and Bath stone colours, both for plain and ornamental work. Specimens to be seen at Blashfield's Wharf, Commercial-road, Lambeth (near Waterloo-bridge), consisting of plain bricks of the usual size for building purposes, moulded bricks for forming Tudor chimney shafts, of various designs, label mouldings, cornices, copings, window sills, dressings for windows and doors, mullions, ridges, skirtings, &c. Also roofing and paving tiles of an ornamental character in the same materials. The moulded bricks are fully equal to the best specimens referred to under the articles "Brickwork," in Nos. 260 and 291, of "The Builder."

FIRE BRICKS.—To Builders, Gas Companies, Engineers, &c. &c. WARD and CO., Honduras Wharf, Bankside, have now on hand an extensive and well-selected Stock of every description of Fire Bricks, Lumps, Tiles, Clays, &c., used in Gas Works, Coke Ovens, Furnaces, Kilns, &c., which they are offering on very liberal terms to consumers, and the trade in general; also, Main Paviors, Stock Bricks, Patent Malting Tiles, Pan, Plain and Ridge Do., Windsor and other Oven Tiles, Sand, Gravel, Lime, Cement, Windsor and other Loams, Red and White House Sand, Dutch Clinkers, Sanitary Pipes, and every article connected with general Building. Goods made to pattern on the shortest notice. Country buyers and consumers will find this the best and cheapest market.

IMPORTANT to BUILDERS, LEAD MERCHANTS, GLASS CUTTERS, OIL and COLOURMEN, PLUMBERS, GLAZIERS and PAINTERS.—The proprietor of a prosperous and lucrative wholesale and retail trade, established upwards of thirty years in one of the principal towns in England, wishes to retire from business and dispose of the concern, on terms that will secure an advantageous investment of capital. The wholesale trade extends over a wealthy and populous district, affording encouragement to commercial enterprise, and the retail connection is of first-class distinction. The stock of lead, glass, oil, colours, and a general assortment of materials required by plumbers, glaziers, and painters, to be taken at a fair valuation. The purchase of the premises, consisting of an excellent dwelling-house, commodious warehouses and workshops, replete with every convenience, is expected to be included in the agreement. Applications by letter only, addressed A. Z., at W. S. Ainsworth's, Esq., 5, Gray's-Inn-square, Gray's-Inn, London.

ARCHITECTS', BUILDERS', and GENERAL FIRE and LIFE INSURANCE COMPANY, 69, Lombard-street, London.

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S. Grimsdell, Esq. | G. Smith, Esq., F.S.A.

The rates for both Fire and Life Insurances are as low as can with safety be taken. Those for Life Insurance may be paid either yearly, half-yearly, or quarterly; one-half the annual premium may be left unpaid for seven years, or one-third to the end of life. Thus large sums may be insured at the smallest present outlay.

Prospectuses, forms of proposals, &c., may be had at the Office 69, Lombard-street, or of the agents.

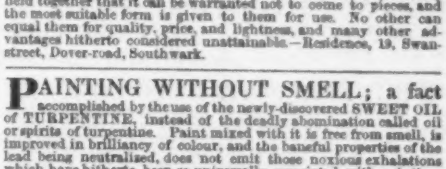
JOHN REDDISH, Manager.

LIGHTERAGE.—To Timber, Slate, Stone, and Coal Merchants, Saw-mill Proprietors, Contractors, and others requiring Lighterage.—CHARLES STRUTTON, Lighterman, &c., is willing to undertake Lighterage at the following low rates, viz.—Coals, 8d. per ton; Slates, Stone, &c., 9d. per ton; Deals, 3s. 5d. per 120; Thames Ballast, 9d. per yard; Timber, 4s. per float. Other Goods in proportion. Barges Let on hire.

34, Commercial-road, Lambeth, and Trinity-street, Rotherhithe.

IMPROVED REGISTERED PAINTERS' BRUSH.—THOMAS NASH, Jun., Inventor and sole Manufacturer of this Brush, which has been approved by many competent judges, submits it to the notice of Painters and the Trade generally. By the application of a newly-arranged metallic binding, which is superior to string or wire, the bristles are so firmly held together that it can be warranted not to come to pieces, and the most suitable form is given to them for use. No other can equal them for quality, price, and lightness, and many other advantages hitherto considered unattainable.—Residence, 19, Swan-street, Dover-road, Southwark.

PAINTING WITHOUT SMELL; a fact accomplished by the use of the newly-discovered SWEET OIL of TURPENTINE, instead of the deadly abomination called oil or spirits of turpentine. Paint mixed with it is free from smell, is improved in brilliancy of colour, and the baneful properties of the lead being neutralized, does not emit those noxious exhalations which have hitherto been so universally associated with painting. By this really valuable discovery house painting is now converted into a sanitary operation, that may be effected at any season of the year, being productive of health and comfort, without causing the slightest derangement to the domestic economy. Sold by the gallon, cwt., or ton, by every respectable oilman in the kingdom, and at the depot, 1, Bream's-buildings, Chancery-lane, where may be seen, and copies had of, the original certificate of Dr. Serny, a senior member of the College of Chemistry. Sold also in sample bottles, 1s. and 2s. each, bottles included.



DR. ARNOTT'S VALVES for thoroughly VENTILATING APARTMENTS of every description. F. EDWARDS having had the advantage of making them under the immediate direction and patronage of Dr. Arnott, enables him to present the public with Valves of the most approved principle for general use. Prices from 7s. 6d. to 20s. and upwards. A prospectus, containing every information, to be had on application to F. EDWARDS, 49, Poland-street, Oxford-street, London.

DR. ARNOTT'S VENTILATING CHIMNEY VALVE,

For carrying off Heated and Impure Air from Bed-rooms Sitting-rooms, Counting-houses, and Apartments generally.

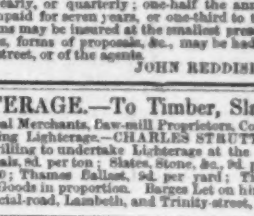
LIST OF PRICES.

	First size, 11 by 8.	Second size, 16 by 9
Plain Iron Valve	7 6	12 0
Bronzed and Leathered	9 0	14 0
Japanned, white with Gold lines	13 0	21 0
Brass Front	17 0	34 0

Packing Cases (if required), 1s. 3d. each.

Manufactured by HART and SONS, 53, 54, 55, Wych-street Strand, London.

IMPROVED SELF-ACTING CHIMNEY VENTILATORS,

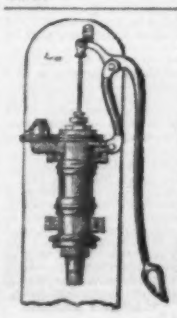


FOR CARRYING OFF HEATED AND IMPURE AIR from drawing-rooms, sitting-rooms, bed-rooms, nurseries, offices, &c. &c., from 3s. each.—BURT and POTTS, Manufacturers and Ironmongers, 66, York-street, Westminster, London.

Stoves, ranges, rain-water pipes, gutters, and builders' ironmongery, as low as any house in London. Delivered free within 5 miles.

CAST-IRON PIPES, IRON WORK FOR OVENS, &c.

RAIN PIPES, &c.—F. A. TIDDEMAN, St. Ann's Wharf, Earl-street, City, near Blackfriars-bridge, keeps a large stock of Rain Pipes, Heads, Shoes, Elbows, &c., half round and O. G. Gutters, Socket Pipes for Water or Gas, Flanch Pipes, Sash Weights, and other Castings; Iron Work for Baker's Ovens of every description, fitted complete, to be had in sets or in parts.—Prices equal to all competition. Contracts taken to any extent.



TO BUILDERS AND PLUMBERS.

THE attention of the Trade is called to

JOHN WARNER & SONS' PATENT VIBRATING STANDARD PUMP,

which is recommended for the simplicity of its construction, and the ease with which it works.

By the introduction of the vibrating standard the cumbrous carriage and expensive slings and guides are unnecessary, rendering the price considerably less than pumps made on the old plan.

Beer and Water Engines for raising fluids from a depth not exceeding 28 feet; also, Garden Engines constructed on the same principle.

JOHN WARNER & SONS,
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Manufacturers and Patentees.

BUILDERS and CARPENTERS' IRONMONGERY WAREHOUSE, 18, Blandford-street, Manchester-square, leading out of Baker-street, Portman-square. Lists of prices may be obtained on pre-paid application.

JOHN and EDWIN YOUNG, Proprietors.

LAP WELDED IRON TUBES.—W. H. RICHARDSON, Jun., and Co., MANUFACTURERS of every description of WROUGHT IRON TUBES for Locomotive and Marine Boilers, Gas, Steam, and other purposes.

PATENT TUBE WORKS, DARLASTON STAFFORDSHIRE

TO ARCHITECTS AND BUILDERS.

CHUBB'S WROUGHT-IRON and FIRE-PROOF DOORS and FRAMES, for strong Rooms. A large stock of the above, of all sizes, made in the best manner, and of different strengths, fitted with CHUBB'S PATENT DETECTOR LOCKS, throwing from two to twenty bolts, constantly on sale, at very moderate prices. FIRE-PROOF SAFES of every size, and Patent Detector Locks and Latches for all purposes.—C. CHUBB and SON, sole Manufacturers, 57, 58, Paul's Church-yard, London.

IRON FOUNDRY, 80, Goswell-street (late of Brick-lane, St. Luke's).—J. J. JONES having made great additions to his STOCK of PATTERNS, begs to inform the Trade, that he can now supply them with Plain and Ornamental Iron Columns Girders, Railings, Gates, Iron Coping, Balconies, Window Guards, Verandahs, Ornamental Staircase Panels, Iron Staircases, Tomb Enclosures, Trellis Panelling, Lamp and other Brackets, Cantilevers, Newel Bars, Water Closet Work, Area Gratings, Fly and other Wheels, Wheel Plates, &c.

BAKER'S OVEN WORK, Forge Backs and Troughs, Rain Water Pipes and Gutters, Sash Weights, Furnace Bars, Stoves, Ranges, &c., always in stock.

OLD-ESTABLISHED WHOLESALE IRONMONGERY WAREHOUSE, Kitchen-range, and Stove-grate Manufactory, 18, Cross-street, Walworth.

JOHN GRICE most respectfully solicits the attention of Architects, Builders, and Carpenters, to his Stock of Black and Bright Stoves, Kitchen Ranges, &c., &c.

Black Registers, from 6d. per in. and upwards.
Bright ditto with Black and Bright Bars, 2l. 10s. and upwards.
Self-acting Kitchen Ranges, with Oven and Back Boiler:—
3 ft., 2l. 5s. 3 ft. 6 in., 2l. 15s.
Elliptic Stoves, with double backs, 3d. per in.
All articles made on the premises and warranted, and delivered free of expense within five miles of London. Bell-hanging in superior style, hung in secret, 8s. per pull.

TO BUILDERS and CARPENTERS.—Elliptic Stoves, double backs, 3d. per inch. Registers, 6½d 7d., 8d. per inch.

Cottage Ranges, with Ovens and Boilers, 3 ft. 2 in. 40s.; 3 ft. 4 in. 42s.; 3 ft. 6 in., 44s.

Self-acting Ranges, with Circular Oven and Back Boiler, best Wrought Bars and Bright Fittings,
3 ft., £2. 15s. 3 ft. 6, £3. 7s. 4 ft., £3. 15s.

Best Patent Cut Clasp.

5d.	6d.	8d.	11d.	1s. 6d.	1s. 10l. per 1,000
2d.	4d.	6d.	8d.	10d.	20d.

Best Sheet Floor Brads 12s. 6d. per cwt.
Best Town Glue 28s. Do. Scotch, 32s. per cwt.

Best Patent Sash Line.

4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s. per gross.	
1	2	3	4	5	6	

At F. R. WILLIAMSON'S IRONMONGERY and STOVE WAREHOUSE, 35, Chiswell-street, Finsbury-square.

Lists of Prices had on application at the Warehouse, or by letter pre-paid, inclosing postage stamp.—Warehouse closes at 7 o'clock.

TO ARCHITECTS, BUILDERS, &c.

HAYWARD, BROTHERS, late R. HENLY and Co., WHOLESALE IRONMONGERS, and Manufacturers of KITCHEN-RANGES, STOVES, &c., 186, Blackfriars-road, and 117, Union-street, Borough.

Strong Self-acting Kitchen Ranges, with Back Boiler and Oven and Wrought Bars:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£3.	£3. 10s.	£3. 12s.	£4.	£4. 10s.

Henly's Patent Improved, with back Boiler and Wrought Iron Oven:—

3 ft.	3 ft. 3 in.	3 ft. 6 in.	3 ft. 9 in.	4 ft.
£5.	£5. 13s.	£6. 8s.	£6. 10s.	£7.

Best Register Stoves, at 7d., 6d., and 9d. per inch.
Do. Elliptic do., at 3½d., and 4d. do.

Manufacturer of WOLFASTON'S PATENT REGISTER STOVES, a certain cure for SMOKY CHIMNEYS, and effecting a great saving in fuel. To be seen in use daily.

Orders from the Country, accompanied with a remittance or reference, will meet with prompt attention.

TO BUILDERS, CARPENTERS, &c.—The undermentioned are the PRESENT PRICES of IRONMONGERY, at YOUNG'S, 194, Oxford-street. Every other article equally low. Orders executed upon receipt of remittance or a respectable London reference.

	2	2½	3 Inches.	
Cast Butts	8s. 3d.	7s. 6d.	11s. per 6 dozens.	
Cut	4d.	6d.	10d.	20d. per
Clasp	6d.	8d.	1s. 4d.	1s. 10d. per 1,000.
Nos.	3	4	5	6
Patent Line	6s. 6d.	7	3d. 8s.	10d. 12s. per gross
	2	2½	3 Inches.	
Rain Pipe	1s. 1d.	1s. 3d.	1s. 6d.	per yard.

IRONMONGERY WAREHOUSE.—D. and W. PRICE, 16, Newington-causeway, Southwark, opposite the Elephant and Castle.

Self-acting Ranges, with circular ovens and back boilers, 3 feet, 42s.; 3 feet 6 inches, 52s.

Ditto ditto, with best wrought bars and bright fittings, 3 feet, 53s.; 3 feet 6 inches, 63s.

Register Stoves, 3½d. per inch, and upwards. Elliptic Stoves, with double backs, 3d. per inch.

Best Cut Clasp, per cwt., 4d., 17s.; 6d., 19s.; 10d., 13s.; 20d., 14s.

Cast Butts, per dozen pair, 2 in., 10d.; 2½ in., 1s. 3d.; 3 in., 1s. 8d.

Six inch Rim Locks, best furniture, with patent spindle, complete, 12s. 6d. per dozen.

Sash Weights, 6s. per cwt. Sash Pulleys (bushed), 7s. 8d. per gross.

Builders, Cabinet-makers, Bellhangers and others, supplied with every description of Ironmongery and Brass Foundry of superior quality at Birmingham prices.

CHEAP

IRONMONGERY WAREHOUSE, 2, York-street, Borough, leading to the Borough Market—GEORGE SANDEMAN and Co.

Elliptic stoves, with double backs, 3d. per inch.
Register stoves..... 6½d. per inch.
Patent cut clasp 4d. 6d. 10d.
Per thousand.... 6d. 8d. 1s. 3d.
Best sash line, 5s. per gross.

Best Patent Sash Line.

No. 1	2	3	4	5	6
Per gross 4s. 3d.	5s.	6s. 6d.	7s. 6d.	10s.	12s.

Sash weights, 6s. per cwt.

Cast butts,	1½	2	2½ inch.
Per dozen,	8d.	11d.	1s. 4d.

Every description of Ironmongery at the lowest prices. Warehouse closes at Seven o'Clock.

BRITANNIA NAIL WAREHOUSE.—Best fine cut clasp.

5d.	6d.	8d.	11d.	1s. 4d.	1s. 10d.	per 1,000.
3d.	4d.	6d.	8d.	10d.	20d.	
Cast butt hinges	1 in.		1½ in.		2 in.	per dozen.

Best sash line 6s. per gross.
Ditto ditto fasteners, from 2s. 3d. per dozen.
Air bricks, 4s. per dozen.
Dr. Arnott's patent ventilators, 11 by 8, 6s. 6d.; 16 by 9, 10s. 6d. each.

Every article of General and Furnishing Ironmongery equally reduced in price, at DENNE and PIERCE'S, Wholesale Ironmongery Warehouse, 44, Farringdon-street. Lists of prices can be had on application. Contracts given for Bell Works, &c. &c.

REDUCED PRICES.—EDWARD SIMMS (late William Cleave), of Wilton-road, Pimlico Basin, begs to acquaint Builders and the Trade that he has now on hand, at his Manufactory (the first of its kind ever established), a very large Assortment of Dry and Well-seasoned OAK and DEAL PREPARED FLOORING BOARDS and MATCH BOARDING of all sorts, from ¼ inch to 1¼ inch thick, planed to a parallel width and thickness, and at greatly Reduced Prices. Also, Timber, Deals, Oak Planks, Scantlings, Sash Bills, Mouldings prepared by Machinery, Laths, &c.—Apply at E. SIMMS'S (late W. Cleave's) Flooring Manufactory and Timber-yard, Wilton-road, Pimlico Basin.

A REDUCTION in the PRICE of FLOOR BOARDS.—ALFRED ROSLING begs to inform the Trade and Consumers generally, that he has REDUCED the PRICE, and keeps constantly in stock a large and very general assortment of Prepared Floor Boards and Matched Boarding, planed to a parallel breadth and thickness, and fit for immediate use; also a variety of machine-prepared Mouldings, which are finished with great accuracy and attention to quality of workmanship.—Southwark Bridge Wharf, Bankside, and Old Barge Wharf, Upper Ground-street, Blackfriars.

GREAT REDUCTION IN THE PRICE OF FLOOR BOARDS AND MATCH BOARDING.—THOMAS ADAMS (late S. Dare), Mahogany and Timber Merchant, Bermondsey New-road, Southwark, near the Bricklayers' Arms, begs to inform his friends and the trade generally, that he has in stock a large assortment of the above goods, fit for immediate use, at prices which only require a trial to prove their decided cheapness. Also mouldings prepared by machinery from the very best material, and in a superior manner; cut deals and scantling of every dimension; mahogany, cedar, rosewood, wainscot, elm, beech, oak, &c., in planks, boards, veneers, and logs; pantile, oak, and fir laths; wheelwrights' goods. All sawn and prepared goods (except timber) delivered free of expense; sawing charged at mill prices. Very extensive drying sheds.

DRY!—WAINSCOT OAK.—DRY! About 4,000 feet for sale, in various thicknesses, warranted to have been stacked more than four years.—Address, F. F. F., office of "The Builder," 2, York-street, Covent Garden.

MUIR'S PATENT PLANING MACHINE.

SAW MILLS, GILLINGHAM-STREET, PIMLICO.

TIMBER of any size, PLANK, DEALS, and BATTENS, &c., Sawn on the most approved principle. Boards, &c., Prepared, Matched, and Grooved, by Muir's Patent Machinery. The Mills have all the advantages of navigation and water-carriage, being connected with the Thames by the Grosvenor Canal. Goods fetched from the docks and carted home free of charge.

Address to HENRY SOUTHAM,
Saw Mills, Gillingham-street, Pimlico.

N.B. Estimates given for Sawing and Planing.

GENERAL WOOD-CUTTING COMPANY.—SAWING, PLANING, AND MOULDING MILLS, Belvedere-road, Lambeth, between the Suspension and Waterloo Bridges. SAWING and PLANING in all their branches executed with the greatest despatch and punctuality. A large Stock of seasoned and beautifully WORKED MOULDINGS, consisting of upwards of 100 different patterns kept constantly on hand; also an extensive assortment of dry prepared FLOORING BOARDS, of all qualities and at reasonable rates.

WOOD THOROUGHLY SEASONED in DAYS instead of YEARS, by DAVISON and SYMINGTON'S PATENTED PROCESS, at the Patent Desiccating Company's Establishment (for Seasoning, Sawing, and Planing Wood), at the Grand Surrey Mills, immediately adjoining the Commercial and East Country Docks, Rotherhithe. The new process ensures the entire removal of moisture, hardens the gums, prevents further shrinkage, and strengthens the fibre.—For scale of prices, or license to work the patent, or any further information, address, post-paid, or apply to

ANGUS JENNINGS, Secretary.

The Patent Desiccating Company's Offices are REMOVED from 28, New Broad-street to No. 41, GRACECHURCH-STREET, CITY.

The Company's Agents are—Mr. WM. LANE, Irwell-buildings, Manchester; and Mr. THOS. MILLIE, Kirkaldy.

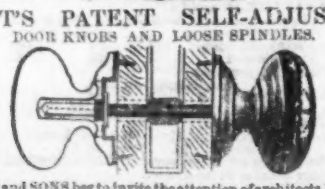
LADDERS, BARROWS, &c.—G. ELL respectfully invites the attention of Railway Companies, Contractors, Builders, Decorators, and the Trade in general to the extensive assortment of Ladders, Barrows, Machines, Trestles, Steps, &c., he has constantly on hand for sale or hire, at a very low scale of prices. Is now selling best excavator's barrows, of ash frames and elm tops, by the hundred, as low as 11s., 12s. 6d., and 14s. each, or, by the dozen, 1s. per barrow extra. Ladders, commencing at 4d. per round. Every other description of ladders, barrows, and scaffolding equally low. Lists of prices can be had on application.—G. ELL'S Manufactories, 3 and 6, Tottenham-court, New-road, St. Pancras, opposite Hampstead-road.

FOR ASYLUMS, HOSPITALS, and other PUBLIC INSTITUTIONS.—Experience has proved that there is no value in iron over wood bedsteads as a preventive of bugs, &c., consequently many public institutions now order WOOD BEDSTEADS, as being more comfortable in appearance and not having the cold and cheerless feeling of iron. We have recently made a large number of Birchwood Bedsteads for the Surrey County Lunatic Asylum, which, from being framed fast, not having any joints, and the sacking being fixed in a peculiar manner, so as to take out and put in readily, are calculated as much as possible to prevent the harbour of bugs, and are as durable and not more expensive than iron. We would beg to call attention to this bedstead, and also to the mattress and bolster we have supplied for the same, and which may be seen at our warerooms and manufactory. WILLIAM SMEE and SON, Wholesale Cabinet Makers and Upholsterers, No. 6, Finsbury Pavement, London.

N.B. A bedstead, mattress, and bolster, with prices, would be sent on show, upon payment of carriage.

By Her Majesty's Royal Letters Patent.

PITT'S PATENT SELF-ADJUSTING DOOR KNOBS AND LOOSE SPINDLES.



HART and SONS beg to invite the attention of architects, builders, and others, to their Door Furniture, mounted for PITT'S PATENTED SPINDLES. The knobs are stronger, more durable, and more elegant in form, than those in ordinary use, as the spindles, being loose, do not require the objectionable side screw. They are more readily fixed, are suitable for every description of lock now in use, and, as they adjust themselves to doors of different thicknesses, without alteration, are particularly adapted for the country or for exportation. They are made (to suit every style of decoration) in China, crystal, amber, and opal glass, buffalo, horn, ivory, ebony, brass, &c., en suite with finger-plates, bell-pulls, levers, &c.—May be obtained of all Ironmongers; or of the proprietors and sole manufacturers, HART and SONS, Wholesale Ironmongers, 53, 54, and 55, Wych-street, Strand, London.

N.B. PITT'S PATENTED SPINDLE, being the only one that does not require a screw in the side of the knob or mounting, the use of any lock furniture without such side screws would be an infringement of the patent.

CHEAP ORNAMENTAL GLASS.—I beg to inform my friends and the public, that I have now completed a new ENGINE, and, owing to the facility with which I can execute orders, I am enabled to reduce my former prices considerably. The prices are now from ONE SHILLING PER FOOT SUP., and borders from SIXPENCE PER FOOT RUN. A large quantity of the cheapest patterns always in stock. Embossing and painted work on the most moderate terms.—CHARLES LONG, No. 1, King-street, Baker-street, Portman-square.—Cash only.

E. and W. H. JACKSON beg to call the attention of Builders and the trade to the reduced prices of their PATENT PLATE GLASS, which, from its cheapness, is now superseding crown in all respectable dwelling-houses. BRITISH and ROUGH PLATE, CROWN, SHEET, STAINED, and ORNAMENTAL GLASS, supplied of the best manufacture, and at the lowest terms. List of prices, estimates, and every information can be had on application at their warehouse, 315, Oxford-street.

BRITISH PLATE GLASS. — E. and W. H. JACKSON supply BRITISH PLATE of unrivalled quality and finish at very moderate prices. Estimates for glazing Shop Fronts and Mansions forwarded on application at their warehouse, 315, Oxford-street.

PLATE GLASS.—THOS. MILLINGTON begs to inform the trade that he has now ready for Sale, a large quantity of BRITISH PLATE GLASS, which he can offer at the following low prices:—In sizes, under 1 foot super, 1s. 2d.; under 1 ft. 6 in., 1s. 6d.; under 2 ft., 1s. 9d.; and under 3 ft., at 2s. per ft. super. Also, Roughed Plate, in various substances, from 1-8th in. upwards. Observe the address—87, BISHOPSGATE-STREET WITHOUT.

THE UNION PLATE GLASS COMPANY beg to call the attention of architects, surveyors, builders, large consumers, and the trade generally, to the quality, colour, and substance of their highly-finished glass, and as the discounts vary according to size, they prefer giving a special estimate for each quantity required. To encourage the use of Plate Glass for glazing purposes, the price is considerably reduced, which will, for its durability and appearance, insure the preference to any other description.

ROUGH PLATE GLASS supplied for skylights, warehouses, workshops, and flooring, 2-8ths, ¼, ⅜, and 1 inch thick.

London Warehouse, 99, Hatton-garden, Holborn.

H. CHRISTIE, Agent.

SASHES and FRAMES, DOORS, &c.—HENRY WARLAND, Bell-yard, Commercial-place, City-road, wishes to inform the Building Public that he continues to supply 1¼ ovolo sashes, glazed, from 7¼d.; 1¼ four-panel doors, moulded both sides, at 9½d. per foot super; and every other description of joinery 15 per cent. cheaper than any house in London. A full list of prices can be had on application, or by return of post.

CHAS. WM. WATERLOW, MANUFACTURER

of Sashes and Frames, and Joiner to the Trade, 131, Bunhill-row, Finsbury-square.—Well-seasoned materials, superior workmanship, lowest prices.—Upwards of 400 DOORS, and a large variety of Sashes and Frames, always on sale. Glazed goods securely packed for the country. Steam-struck Mouldings in any quantity.—N.B. This Establishment is worth the notice of all engaged in building.

REGISTERED

SOLID AXLE SASH PULLEY.—This pulley, after having been submitted to the most severe test, is allowed to be superior to every other made for strength and durability. It is fixed with the same facility as the common axle pulley, and comes equally low in price. May be had from any of the Birmingham or Wolverhampton factors. The Crane Foundry Company, Wolverhampton, Proprietors and Sole Manufacturers.—No. 8 is all iron; No. 9, brass front and wheel with iron axle; No. 10, brass front and wheel with brass axle.

By Her Majesty's Royal Letters Patent.

GLASS VENTILATORS FOR WINDOWS.

BAILLIE'S PATENT Transparent SLIDE VENTILATORS, supplied at a reduction of 40 per cent. from the original Tariff. Their extensive and successful application to public offices, bed-rooms, and the cure of smoky chimneys, prove their great utility. To be seen in action at Edward Baillie's Stained Glass Works, 12 a Cumberland Market, Regent's Park.

Designs and estimates for church and ornamental windows forwarded on application as above, where specimens in every style are on view.

HURWOOD'S PATENT APPARATUS for MOVING and FASTENING WINDOWS, &c.

GENERAL DESCRIPTION.—This invention recommends itself in all its applications by its simplicity, efficiency, and certainty of action, and entirely dispenses with all pullies, weights, cords, springs, sectopes, fastenings, &c. A principal feature in the invention is the application of the screw, or worm working into a wheel or rack, as a prime mover. The apparatus moves with ease and certainty; is very durable, not likely to be out of order; is perfectly secure in every position, and is applicable to conservatories, French casements, folding shutters, stables, ventilators, skylights, ship scuttles, deck and stern lights, and to all descriptions of windows, and is particularly adapted to public buildings, where security is an important object, as in lunatic asylums.

Further particulars may be had upon application to the Patentee, and also the terms upon which licenses are granted.

*** Illustrative Catalogues may also be obtained from the Patentee, Ipswich, by inclosing twelve stamps, to cover postage.

JORDAN'S PATENT MACHINE CARVING and MOULDING WORKS for WOOD and STONE, Belvedere-road, Lambeth, and 154, Strand.—TAYLOR, WILLIAMS, and JORDAN beg to call the attention of the building community to a new feature of their establishment, and, at the same time, to thank their numerous patrons and friends for the very liberal support they have lately experienced, which, they assure them and the public, it will be their constant endeavour to deserve, by giving their customers an increasing share of the advantages arising from the constant improvements in the machinery which they have just succeeded in applying to the production of the most intricate carving in Caen and other freestones, and in statuary marble.

T., W., and J. particularly solicit the attention of architects and builders to the fact that, by the use of this machinery, a very large saving, both of time and money, is effected,—so great, indeed, that in many cases they can deliver a well-finished article in Caen stone for less money than it can be obtained in cement, while their wood-carving will, in some cases, be found to come into close competition with the best kinds of composition ornament.—For prices and estimates apply at 154, Strand.

TESTIMONIAL FROM CHARLES BARRY, ESQ.

"Westminster, May 16th, 1848.

"Gentlemen,—In reply to your letter requesting my opinion of your Patent Carving Machinery, I have much pleasure in stating, from an experience of more than two years, in its application to the production of the wood carvings of the House of Peers, and other apartments of the New Palace, at Westminster, that I am enabled to make the most favourable report concerning it, and to add that it has more than justified the favourable terms in which I recommended it in 1845 to her Majesty's Commissioners of Woods and Works for adoption.—I remain, Gentlemen, yours faithfully,

"CHARLES BARRY."

"Messrs. Taylor, Williams, and Jordan."

Just published, 8vo., price 1s., or sent post free for 1s. 6d.

BIELEFELD'S TARIFF of PAPIER MACHE FRAMES, containing 114 Engravings; including (the machine-made frame mouldings, which may be had in 12 feet lengths without join, or made up complete).

"The frames of Mr. Bielefeld possess the best characteristic of fine carving."—*Art Union Journal.*

"The work Mr. Bielefeld has perfected is one of remarkable elaborateness and beauty."—*Douglas Jerrold.*

By Her Majesty's royal letters patent.—The Works, 15, Wellington-street North, Strand.

MARTIN'S PATENT FIRE-PROOF and ORNAMENTAL CEMENT—REDUCTION of PRICE.—The Patentees beg to inform their Friends and the Public that they have made arrangements which enable them to offer this invaluable cement at a considerably reduced price. It has now been before the public so many years, and has obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. The Patentees, however, feel called upon to observe, that by its use—from the greater amount of surface which a given quantity will cover, and the small amount of labour required in working it, a saving of 25 to 30 per cent. is effected as compared with other cements for internal use. Specimens shewing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement in any quantity obtained of the Patentees, Messrs. STEVENS and SON, at their Plaster and Cement Works, 128, Drury-lane, London.—Agent for Liverpool.

Mr. GEORGE NEWTON, No. 6, Lawton-street, Bold-street.

JOHN'S and Co. PATENT STUCCO CEMENT and PAINT.—These materials, for their beauty, durability, imperviousness, perfect resistance to frost or heat, and great cheapness, fully justify the confidence reposed in them, as shewn by numerous testimonials. For INTERIOR SURFACES this cement possesses the following remarkable properties: having no caustic qualities, it may be painted on or papered within a few days after its application, and a new house may thus be rendered habitable without any delay. It never blisters, cracks, or vegetates; very soon becomes as hard as stone, and may be cleaned with a brush and water.—Prospectuses, specimens, and every information connected with its use, price, &c., may be obtained from the sole agent, PHILIP HARE, at the Warehouse, 22, Steel-yard, Upper Thames-street.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 320 and 325, pages 343 and 391 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, corrodate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also by their Agent at the Depôt, 1, Back Gores, Liverpool.

PORTLAND CEMENT, as manufactured by J. B. WHITE and SONS, possesses all the properties of the best Roman Cement, but has the advantage over that material of wholly resisting frost; and when used as a stucco it does not vegetate or turn green in damp situations, and requires no colouring. Employed as an hydraulic mortar for brickwork, it carries four to five measures of sand to one of cement, and is proved by trial to become harder and stronger in these proportions than Roman Cement with but one measure of sand. This superior connecting power, combined with its eminently hydraulic properties, point it out as the fittest material for building sea and embankment walls, the lining of reservoirs, cisterns, and baths, and for all those purposes where strength and a perfect resistance to water are required.

Manufacturers—J. B. WHITE and SON, Millbank-street, Westminster, and 36, Seel-street, Liverpool.

KEENE'S PATENT MARBLE CEMENT forms an exceedingly hard and indestructible Stucco, which may either be prepared for paint, or finished in imitation of stone, by the addition of Portland or other stone dust.

It is a cheap and efficient substitute in place of wood for skirting, architrave, and other mouldings, in its application for which purposes it checks the progress of Fire and the attacks of Vermin.

Patentees and sole Manufacturers, J. B. WHITE and SONS, Millbank-street, Westminster, and Seel-street, Liverpool.

ROMAN CEMENT, made according to the specification of Parker's Patent, may be had genuine of J. M. BLASHFIELD (late Wyatt, Parker, and Co.), Waterloo Dock Wharf, Commercial-road, Lambeth, No. 1, Irongate Wharf, Paddington, and at the Manufactory, Mill Wall, Poplar. Also Plaster, Mastic, Tarras, Bricks, Tiles, &c.

VEINED AND SICILIAN MARBLE in Scantlings and Slabs of the first quality, just imported.

PARIAN CEMENT, for internal Stucco, instead of PLASTER OF PARIS, may be painted and papered within twenty hours of its application on the bare walls; and rooms may be rendered habitable by its use before the materials commonly adopted would begin to dry. It is worked without the slightest difficulty. A finer quality is also prepared for ornamental plastering, for encaustic painting, &c. &c. Specimens of which may be seen at the Manufactory of the Patentees, CHAS. FRANCIS and SONS, Cement Works, Nine Elms, London.

WARWICKSHIRE CEMENT.—To Architects, Engineers, Contractors, and Builders.—R. GREAVES solicits the notice of the Profession and Trade to the very superior CEMENT he is now manufacturing at his Works, Stratford-on-Avon and Southam; the "Warwickshire" resembling "Caen" stone, and the "Improved" a dark tint of the "Bath," both of which will be found unequalled, especially for hydraulic purposes.

GROUND LIAS LIME FOR CONCRETE, &c.

N.B. Glazed Stone-Ware Pipes on sale.

To be had at Messrs. Rutty and Verey, 2, South Wharf, Paddington, and at Messrs. Gladdish's, Pedlar's Acre, Lambeth, and Pratt's Wharf, Camden Town.

AGENTS—Manchester—J. Thompson, Back King-street; Liverpool—T. Wylie, 56, Gloucester-street; Belfast—W. and F. Lewis; Glasgow—W. Brown, 164, Broomielaw; Oxford—E. Cryer, Canal Wharf; Chester—J. Harrison, Linenhall-street; Worcester—F. Bradley, Butts; Evesham—H. Burlingham and Co.; Birmingham—J. Bonehill, Berkley-street.

EMERSON'S PATENT LIQUID CEMENT is ready for use, is simple in its application, and only ONE-EIGHTH the cost of oil paint; for beauty it is pre-eminent over all other materials used on the fronts of houses, giving the exact appearance of FINE CUT STONE; can be used at once on fresh Roman cement or other plastering; is particularly calculated for country houses, villas, or gate entrances that have become soiled or dingy, which can be beautified in any weather, at a trifling cost.—Sold in casks of 1, 2, and 3 cwt., at 8s., 15s. and 21s. each.

PATENT MINERAL PAINT.

Invaluable as a coating for SHIPS' SIDES AND BOTTOMS, all kinds of WOOD or METAL work, roofing felts, leaky roofs, spouts and gutters, doors, sheds, railing, and all kinds of out-door work, and being perfectly waterproof, will preserve their surfaces from atmospheric influence and decay,—without any preparation, and will dry in a few hours.—Sold in casks, 2 to 30 gallons. Brilliant Black, 3s.; Rich Brown, 2s. 9d. per gallon.

BELL, SEAR, and Co, No. 16, Basing-lane, Cheapside.

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FIRST-RATE ORNAMENTS in PORTLAND, ROMAN and other CEMENTS, and PLASTER of PARIS, at reasonable prices, consisting of Vases, Balusters, Capitals, perforated Panellings, Cantilevers, Brackets, Trusses, Wreaths, Scrolls, Masques, Heads, Figures, Friezes, Gothic and other Chimney-Shafts, Soffits, Bed-moulds, Paterae, &c. &c. Centre Flowers from 10 feet diameter downwards. An assortment of Shop-front Trusses always ready for fixing.—HERBERT and SON, Modellers, &c., 42, Parker-street, Drury-lane.